GENERAL LIBRARY
SEP 11 1918
The
UNIV. OF MICH.

British Medical Journal

The Journal of the British Medical Association.

WITH SUPPLEMENT.

No. 3006. SATURDAY, AUGUST 10, 1918. **Price 1/-**

SECOND EDITION. In Two Vols. 45/- net.

DEFORMITIES
INCLUDING
DISEASES OF THE BONES AND JOINTS.
A TEXT-BOOK OF ORTHOPÆDIC SURGERY.
By A. H. TUBBY, C.B., C.M.G., M.S.
Illustrated by 70 Plates and over 1,000 Figures, and by Notes of Cases.
2ND EDITION.—"The standard text-book in English on the subject."—*The Lancet.*
1ST EDITION.—"Standard work on the subject in the English language."—*Brit. Med. Jour.*
MACMILLAN & Co., LTD.,
St. Martin's Street, London, W.C.

Pp. viii + 350, With 102 Illustrations.
Price 7s. 6d. net.

DISEASES
OF THE
RECTUM AND ANUS
BY
W. LOCKHART MUMMERY, F.R.C.S.
BAILLIÈRE, TINDALL & COX,
8, Henrietta Street, Covent Garden, W.C. 2.

FACTS ABOUT SMALL-POX AND VACCINATION.
REVISED EDITION.
PRICE THREEPENCE.
BRITISH MEDICAL ASSOCIATION, 429, Strand, W.C. 2.

FORMS FOR MEDICAL CERTIFICATES
of incapacity for work for use by
PRIVATE DOCTORS FOR NATIONAL HEALTH INSURANCE
to be obtained from the Offices of the BRITISH MEDICAL ASSOCIATION, 429, Strand, W.C. 2.
Price 6d., post free.
Each 6d. Book of Forms contains 50 Certificates.

OXFORD MEDICAL PUBLICATIONS.

DISEASES OF THE HEART
Their DIAGNOSIS, PROGNOSIS & TREATMENT by MODERN METHODS. With a Chapter on the ELECTRO-CARDIOGRAPH.
By FREDERICK W. PRICE, M.D., F.R.S.(Edin.),
Physician to the Great Northern Central Hospital; Assistant Physician to the National Hospital for Diseases of the Heart, London; late Lecturer on Polygraphic Methods at the Medical Graduates College and Polyclinic.
Demy 8vo. Cloth. 484 pp., fully Illustrated, with 245 Illus. in the Text, and Frontispiece in Colour. 21s. net.

BURNS AND THEIR TREATMENT,
including Dermatitis from High Explosives
By J. M. H. MACLEOD, M.A., M.D., F.R.C.P.,
Physician, Diseases of the Skin, Charing Cross Hospital; Physician, Skin Department, Victoria Hospital for Children.
19 Illustrations. 6s. net.

HENRY FROWDE AND HODDER & STOUGHTON,
Oxford Press Warehouse, Falcon Sq., London, E.C. 1.

By C. MANSELL MOULLIN,
M.D.Oxon., F.R.C.S., Consulting Surgeon to the London Hospital.
ENLARGEMENT OF THE PROSTATE.
Fourth Edition. Price 6s.

THE BIOLOGY OF TUMOURS,
including the Bradshaw Lectures.
New and Revised Edition. Price 2s. 6d. net.
London: H. K. LEWIS & Co., Ltd., 136, Gower St., W.C. 1

Now Ready. Pp. xi + 269. With 3 Charts. 5s. net.
ON ALCOHOLISM:
Its Clinical Aspects and Treatment.
By FRANCIS HARE, M.D.,
Medical Superintendent of the
NORWOOD SANATORIUM,
Beckenham.
"Marked by candour, common sense, and moderation . . . likely to become the standard text-book."—*British Medical Journal.*
London: J. & A. CHURCHILL,
7, Great Marlborough Street, W. 1.

By C. O. HAWTHORNE, M.D.
STUDIES IN CLINICAL MEDICINE
Price 6s. net.
"A valuable miscellany of clinical studies."
—*Edin. Med. Journ.*
"Covers the ground of clinical medicine in an able manner."—*Canada Lancet.*
"Should be in the possession of every general practitioner."—*Prescriber.*
BALE & DANIELSSON, Gt. Titchfield Street, W. 1.

By LESLIE THORNE THORNE, M.D., B.S., etc.
NAUHEIM TREATMENT
IN ENGLAND OF DISEASES OF THE HEART AND CIRCULATION.
Fifth Edition, Enlarged and re-written, much new matter. Price 5s. net.
Pp. vi. + 160, with 27 Photos of Resistance—Exercises and 65 other Illustrations, Polygraphs, etc.
"It is the best and most practicable work on the subject."—*West London Medical Journal.*
BAILLIÈRE, TINDALL & COX,
8, Henrietta St., Covent Garden, London W.C. 2.

NERVOUS ASTHMA:
Its Pathology and Treatment.
By J. B. BERKART, M.D., late Physician to the City of London Hospital. 2s. 6d. net.
HUMPHREY MILFORD,
OXFORD UNIVERSITY PRESS, Amen Corner, E.C.

Price 2s. 6d. paper cover, or 3s. 6d. cloth bound, net. Postage Threepence extra.
REPORT
OF THE
ANÆSTHETICS COMMITTEE
OF THE
BRITISH MEDICAL ASSOCIATION.
This Report is based on 25,920 recorded cases of the administration of anæsthetics in Great Britain, tabulated and analysed with a view to the investigation of the influence of various factors in the production of complications and danger under each of the chief anæsthetics.
The Report deals with many interesting and important questions, and contains 76 statistical tables together with detailed accounts of more than 800 complicated cases.
London: BRITISH MEDICAL ASSOCIATION,
429, Strand, W.C. 2.

THE EDUCATION OR STUDENTS NUMBER

Will be published on AUGUST 31st.

Owing to the restrictions on paper the Advertisement pages will be very limited; to ensure insertion copy must reach this office, 429, Strand, W.C. 2., not later than 22nd inst.

HORMOTONE

Is a pluriglandular preparation that has met with the approval of many leading cliniciaps. Hormotone contains thyroid, pituitary, ovary and testis. Each tablet contains 1/10 grain of desiccated thyroid, and 1/20 grain of desiccated whole pituitary.

"The practitioner should grasp the idea that morbid states may be consequent upon pluriglandular insufficiency and this will encourage him to substitute multiglandular for monoglandular organotherapy on the same lines and for the same reasons that we employ polyvalent sera."—(DARDEL: *The Practitioner*, July, 1912).

Hormotone is indicated in neurasthenia and all asthenic conditions dependent upon functional insufficiency of the adrenal glands.

A well-known American physician writes: **"No medicine of this character has ever been devised that produces the uniformly good results that Hormotone does when used in suitable cases, and it has come to be my main reliance in a certain class of neurasthenics with a loss of tone in the general musculature."**

In neurasthenia associated with high blood pressure and all hypertensive conditions use

HORMOTONE WITHOUT POST-PITUITARY

This preparation was mentioned very favorably by a writer in *The Practitioner* for November, 1917. (See page 481).

Dose of either preparation: One or two tablets three times daily before meals.

LITERATURE UPON REQUEST.

G. W. CARNRICK CO.

23-27, Sullivan Street, New York, U.S.A. **20, Ribblesdale Road, Hornsey, London, N. 8.**

BAILEY'S INVALID FURNITURE FOR WOUNDED.

Write for Special List.

No. F263.

No. F 263. A strong **Merlin Chair,** Birch polished Walnut, caned back and seat, rubber-tyred wheels, 24 inches diameter, with hand rims.

No. F500.

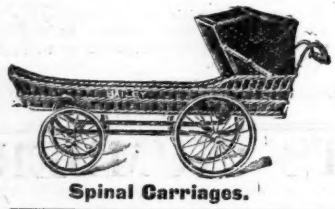
No. F500. **Merlin Chair,** very strongly built, suitable for Military Hospitals. With or without Detachable Leg Rest

No. F 509.

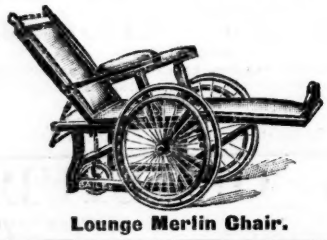
No. F509. **Hand-propelled Invalid Chair,** Seat with nickel-plated rail. The Steering is effected by the back support, ball bearings throughout, and pneumatic tyres.
Hand Brake, **extra.**

No. F.S. 540.

No. F.S. 540. **Hand-propelled Invalid Chair,** with lever action. Seat mounted on Spiral Springs, Rexine covered Cushion, weldless steel frame, ball bearings, and heavy roadster pneumatic tyres, steering as No. 509.



Spinal Carriages.



Lounge Merlin Chair.

Invalid Carriages.

W. H. BAILEY & SON,

38, OXFORD STREET, LONDON, W. 1. ... **For Surgical Instruments and Appliances.**
2, RATHBONE PLACE, LONDON, W. 1. ... **For Hospital and Invalid Furniture.**

Manufacturers of Surgical Instruments, Hospital and Sick Nursing Appliances Trusses Elastic Stockings, Abdominal Belts, &c.

Telegrams: "BAYLEAF, LONDON." Telephone: 2942 Gerrard.

A Lecture
ON
TREATMENT OF THE WOUNDED IN THE AID POSTS AND FIELD AMBULANCES.

Given to the Medical Officers of an American Division,

By S. MAYNARD SMITH, C.B., Colonel A.M.S.,
Consulting Surgeon, British Expeditionary Force.

Importance of First-aid Work.

It is perhaps natural that articles in the medical journals should have dealt almost entirely with the comparatively finished surgery of the clearing stations and base hospitals. The surgery of first aid is not a subject in which the profession generally has interested itself. Abdominal and chest surgery, for instance, lend themselves more to literature than the efforts of the regimental or field ambulance officer. At one time there was a real danger that insufficient effort might be given to developing and encouraging the surgical work of the fighting line. But the keenness and devotion of many officers with divisions has saved the situation, and the improvement effected in the surgery of the forward units is just as striking a feature of the medical history of the war as that which has taken place in the clearing stations and base hospitals abroad and in England. The improvement in forward work is strikingly reflected in the condition in which the wounded reach the clearing stations. My attention was drawn at a unit at home to the fact that whereas at one time the arrival of a double leg amputation was a rarity, now there were a large number of such cases awaiting artificial limbs. Improvement in the treatment of shock, and surgical treatment generally, has, of course, much to do with this, but I am inclined to attribute a large share of the credit to the work of the regimental and field ambulance officer. In many a case the question whether a wounded man can have a chance of survival has been settled by the treatment adopted before the ambulance convoy deposits him at the clearing station. In all that follows I am telling you methods which have for the most part been devised by officers who have spent their service in forward units, and what I shall say is largely what I have learnt in visiting those units.

General Principles.

In surgical work at forward units it is necessary to have clearly in mind what surgical aims one has in view; what it is possible to do in dealing with a wound; what is impossible, and therefore waste of time to attempt. In laying down the general principles which govern the treatment of wounded at the aid posts and field ambulances, it is essential to consider briefly the whole question of the treatment of the wounded as it now stands.

In the conditions of warfare existing on the western front the great majority of the wounds met with are severely lacerated, the soft tissues are extensively crushed and devitalized. Such wounds are heavily infected, not only with the ordinary pathogenic organisms but also with the anaërobes of gas gangrene and gas cellulitis. Fragments of shell or bomb and pieces of clothing, or masses of mud, carried in by the missile, are frequently present in the wound. Varying in proportion with the character of the fighting, clean through-and-through bullet wounds are met with. Even bullets, especially when striking bones at short range or when splitting into myriads of fragments through hitting accoutrements or ricochetting from hard objects, produce wounds which possess all the grave characteristics of those caused by large fragments of shell.

The results in the early days of the war of treating wounds of this nature by simple aseptic or antiseptic dressings, on the lines adopted in South Africa, caused a rude awakening. In the first place tetanus was rife; the routine administration of antitetanic serum had an immediate effect in controlling the incidence of this disease. In the second place, anaërobic infections of the nature of gas cellulitis and gas gangrene—conditions almost unknown to us in civil practice—were nearly universal complications of bad wounds. The measures first adopted, of free opening and drainage, and the avoidance of constriction and undue pressure, had but little effect in the prevention of gaseous infections. Attempts at disinfection in the forward area by pastes and strong chemical antiseptics were notoriously unsuccessful. Almost all severe wounds became infected and foul. Deaths were frequent, and prolonged and painful convalescence the rule.

Excision of Damaged Tissue.

Not much progress was made until it became recognized that all but trivial superficial wounds or clean through-and-through bullet wounds need an early and complete cleansing operation—an operation which involves the free exposure of all the recesses of the wound; the removal of all missiles, clothing, dirt, and débris; the methodical excision of damaged muscle and fascia and the paring of damaged skin edges. This operation must be performed with surroundings permitting of care and thoroughness, with proper aseptic ritual, by surgeons experienced in the technique, and in places where patients, if necessary, may be retained for a short period. It was found that when this operation had been efficiently performed wounds ran a course free from complications; that secondary suture was possible in many at an early date; and finally that, under certain circumstances, many wounds could be sewn up right away, and would heal much as the clean operation wound of civil practice. It is now everywhere recognized that this operation is *the* factor in deciding between severe infection, prolonged illness, and eventual crippling on the one hand, and an aseptic course, rapid convalescence, and a minimum of disablement on the other. This operation may conveniently be termed the excision of the wound. When is it to be performed? Certainly as soon after the infliction of the wound as possible. The longer the delay the greater the chance of established infection. Where? You have not the necessary appliances, theatres, personnel, and accommodation in the forward units. Special hospitals are provided for the purpose, as near the line as possible. We call them Casualty Clearing Stations. Your work, then, will consist in getting your wounded back as soon as possible, and as fit as possible for the further treatment necessary.

Summary of General Principles.

Having these facts in mind, one may now summarize the general principles which govern forward unit work as follows:

1. Get the wounded back to the clearing station as soon as you can.
2. Dress the wound once carefully; afterwards do not disturb the dressings unless they have slipped or unless there is bleeding.
3. Take measures to avoid shock; if it has already supervened, take measures to treat it.
4. Efficiently splint all fractures.
5. Arrest haemorrhage.
6. Take any special measures needed in special cases.

Rapid Evacuation.

This calls for qualities of organization, endurance, devotion, and courage. It is not a surgical problem. Yet perhaps I may be allowed to say these words: Success in regimental and field ambulance work depends at least as much on what is done to meet the rush beforehand as on the actual conduct of affairs at the time. Forethought and organization are all-important. Every man in a unit should know what is expected of him, and should be trained to carry out his particular job. A wounded man passes through one of the larger units in much the way that a piece of metal passes from department to department of a factory till it emerges the finished article. Records have to be taken, antitetanic serum given, food or drink administered, the wound dressed, splints applied, the patient warmed and packed up for transport. Often this has to be done under circumstances of almost intolerable difficulty. The difficulties can only be surmounted by organization of the machine beforehand, so that each man does his job and confusion is avoided. "Team work" is essential. To see a Thomas's splint applied to a fractured femur by a well-drilled team is a revelation to the inexperienced.

Dressing the Wound.

Dressings must be ready beforehand. Gauze should be cut up into 6-inch squares and sterilized. The best way, I think, of doing this is to boil the gauze in a *marmite*. The excess water is drained away, and, when cool, the

gauze is covered with eusol. When needed for use the eusol is drained off, and the gauze is ready for use. Roller bandages are laid out ready to hand. The triangular bandage is of great value, and all your orderlies should be trained in its application.

The field or shell dressing will have been applied usually by unskilled hands. It is liable to be dirty and tight. You should therefore remove it and do one careful dressing. It is not possible for you to have clean hands. Rubber gloves are out of the question, but if you will practise sufficiently you will find that forceps can do the whole work without your hands having to touch either the wound or the dressings which are to be in immediate contact with it. Pairs of sterilized forceps standing in glasses of antiseptic should be at each dressing "dump." The wound itself is temporarily covered with gauze; the skin around is then washed and painted with picric acid (3 per cent.) in spirit. (Iodine is liable to blister, and when combined with cyanide gauze causes serious burns.) The wound is then uncovered, obvious dirt or foreign bodies are removed, and the surface of the wound swabbed over with eusol. No attempt should be made to clean out the depths of the wound or to syringe or irrigate. Attempts to delay or avoid infection by the injection into wounds of fluids or pastes are futile. You are more likely to spread infection to previously uncontaminated areas. You will waste valuable time. You will disturb clots and restart bleeding. You only need to see a few wounds opened up at the clearing station to realize how impossible of realization is the first-aid disinfection of lacerated shell wounds. The wound is finally covered with gauze and wool and bandaged.

Shock.

I can do no more than touch on the practical aspect of this wide subject as far as it affects your forward work. It is convenient to speak of primary and secondary shock.

Primary shock ensues practically immediately on the receipt of a severe wound. It is not possible for you to avoid its occurrence. If adequate means be taken to combat it, the patient may recover from it and secondary shock may not follow. In the worst cases, or where no treatment has been available, it passes into a condition of secondary shock, with or without a period of rallying and partial recovery.

Secondary shock comes on later. It may be a sequel to primary shock or come on *de novo*. It is produced by various factors, which will be spoken of, and to a considerable extent may be avoided if adequate treatment is possible.

The factors which cause primary shock to pass into secondary shock, and those which cause secondary shock, are largely identical. They are—cold and exposure, lack of food and drink, haemorrhage, pain and disturbance. The onset of sepsis aggravates and perpetuates the condition. A condition of acidosis is often present, and further research on this point is being carried out. Cold and exposure are, of course, in part inevitable, but much can be done to avoid them. The warm stretcher is well known in our service, and is used even in many aid posts. (A demonstration was given of this and a practical method of warming blankets at a field ambulance shown.) Improvised hot-water bottles are widely employed, and our ambulance cars are warmed by the exhaust pipe. When circumstances allow, and it is possible to do it in reasonable warmth and shelter, the wet clothes may be changed. During one severe action every one of the badly wounded in a certain division were sent down in dry warm clothing with hot-water bottles applied, without delaying evacuation. The circumstances were exceptional, but I quote this as an example of what can be done when determination exists to get as near the ideal as the military situation permits. Hot drinks should be given. Hot tea is the favourite with our men. With a view to combating acidosis, a teaspoonful of bicarbonate of soda is sometimes added. Of all factors concerned in shock perhaps haemorrhage is the most potent. Every effort must be made to reduce it to a minimum. Remember that every change of dressing starts oozing afresh. In the avoidance of pain, the importance of efficient splinting cannot be overrated. Not only fractures, but also extensive lacerated flesh wounds of the extremities should be splinted. Morphine is of great value. It should not, however, be given indiscriminately, and the dose needs careful regulation. A good deal of difference of opinion has existed on this point, but the view of those best qualified to judge is becoming unanimous, that a dose of $\frac{1}{4}$ grain should seldom be exceeded. The question of the more active treatment of shock, in the forward area, by intravenous injections has been studied for a long time. Injection of normal saline is generally held to be too transitory in its effect to be of much value in helping a badly shocked man over his journey back. We are now investigating the effect of a solution of gum and sodium bicarbonate in the forward units. As might have been expected, it is in cases where there has been much haemorrhage that the effects have been most favourable. Since the technique is rapid and easy it may be that intravenous injections will become a recognized feature of field ambulance work. Transfusion of blood, the most effective form of treatment we have at present, I am not discussing, as its employment in front of a clearing station is hardly ever a practicable matter. Attempts have recently, however, been made to employ preserved blood for the purpose.

Fractures.

Allusion has already been made to the shock produced in fractures of the larger bones. Transport with fractures imperfectly splinted is a great feature in increasing and producing shock. The condition of a man with a fractured femur at the end of a journey without a splint is pitiable. One of the most striking things in war surgery is the improvement in the condition of fractured femurs arriving at the clearing stations since the adoption of the Thomas splint in front line work. Every fracture should be immobilized as far forward as possible. This is very often possible at the aid post. Failing this, it should be done at the advanced dressing station. The fewer and simpler the varieties of splints used the better.

For all fractures of the femur, serious fractures involving the knee-joint, and fractures of the upper part of the tibia, the Thomas splint should be used, with an extension applied over the boot, which should not be removed. (A demonstration was given of the first-aid application of the Thomas splint.) In those rare cases where the ring of the Thomas would press on the wound, a long outside splint must be substituted.

For fractures of the middle and lower third of the leg, and for those of the ankle and tarsus, a back splint with footpiece is efficient, provided always that side splints are used with it. Otherwise the heel slips out, and the splint becomes useless.

Fractures of the humerus are not easy to splint effectually. If the lower end of the bone is broken, an internal angular splint, or the variety of this with a posterior splint fixed on like a shutter, is efficient and simple. If the fracture is in the middle or upper third no internal angular splint can come high enough into the axilla to get any useful grip on the top fragment. After much trial and discussion with front line officers I have come to the conclusion that the best method is to use the thorax as a splint for the arm. A wool pad is placed in the axilla, the whole upper arm is then bandaged to the chest, a piece of Gooch's splinting being applied to the outer side of the arm, reaching from the acromion to the outer condyle. The wrist is supported by a sling. Of course you will understand that I am dealing only with transport as far as the clearing station.

For fractures of the radius and ulna the internal angular splint is used, with a straight splint for the back of the forearm. For those close to the wrist straight splints to the front and back of the forearm suffice. In all these fractures the sling should reach as far as the fingers, so as to support the hand.

Haemorrhage.

The Tourniquet.—In speaking of haemorrhage one is at once up against the much-discussed question of the tourniquet. Properly used, the tourniquet at times saves a life. Improperly used, it is a frequent cause of loss of life and limb. Its use is seldom justifiable, and then only as a *temporary* measure for the arrest of serious bleeding until the wounded man can be got to a place where the arrest of haemorrhage by the recognized surgical methods can be carried out. You should remember that some form of emergency tourniquet may have been applied by a comrade or stretcher-bearer. In the rush of heavy fighting it is easy to miss such a tourniquet hidden by the man's clothing or the corner of a blanket. Being warned of the

possibility, one should not do so. In patients getting back as far as the clearing station with tourniquets applied, death of the limb from interruption of the circulation is almost invariable. Even if this does not occur, the cutting off of the blood supply from an area of smashed muscle provides all the ideal conditions for the development of gas gangrene.

Other measures than the tourniquet should therefore be adopted, and if for some reason a tourniquet has been applied it is the duty of every medical officer through whose hands the case passes to remove it. In most cases there will be no bleeding. If, however, bleeding recommences, then the following methods should be employed:

1. In many cases the obvious source is exposed in the wound and may be seized with pressure forceps and ligatured. This is the ideal.

2. In other cases blood may be seen welling from a deep recess of the wound. Pressure forceps are applied in that area and the bleeding ceases. To apply a ligature over the forceps may need a free opening up and present difficulties. In this case it is best to leave the forceps on and pack round with gauze. The patient is sent on with the forceps *in situ*.

3. If neither of these methods is applicable pressure must be obtained by packing the wound. But it is essential that the pack really presses on the bleeding point. It is no use packing gauze through a small aperture into a big lacerated cavity. The pack must be cone-shaped, with its apex at the source of haemorrhage. If the wound aperture be small it must be enlarged by slitting up the skin and fascia. No anaesthetic should be used. The pain caused is not great, particularly if the incision be made in a distal direction where the nerve supply has been interrupted by the injury. Gauze is then packed firmly into the wound and a pad placed over it. Firm pressure is made with a bandage, but a wide wooden splint should always be applied to the opposite side of the limb before the bandage is applied, in order to avoid constriction of the extremity.

Special Cases.

Penetrating Abdominal Wounds.—These should be sent by the shortest route to the clearing station. The mortality varies directly with the number of hours which intervenes between the receipt of the wound and operation. It is important to realize that not only wounds with their entrances in the abdominal wall, but also wounds of the back, buttock, hip, groin, and lower chest, are potential "perforating abdomens." Shock, out of proportion to the external appearance of the wound, pain in the abdomen, rigidity—especially in regions remote from the wound—and vomiting, point to the likelihood of an abdominal lesion. Any case in which suspicion exists should be sent on at once.

Penetrating Chest Wounds.—An injection of morphine should be given. This lessens the respiratory distress. The patient should be placed in the position of greatest comfort, which is usually the semi-recumbent posture. While it may be an advantage to keep a bad case for a time to allow him to tide over his initial shock, the general rule is to send cases back as soon as they are fit to travel. In dressing the wound, it is important to avoid the interference with the free play of the uninjured side of the chest caused by an encircling bandage. Use strapping when possible. There is one class of chest wound that needs special attention. The wound in the parietes may remain open so that air is sucked in and out with respiration, or the blood collected in the pleural cavity may be leaking away through the external aperture. "Sucking pneumothorax" and "leaking haemothorax" are convenient terms for these conditions. In the first the respiratory embarrassment is extreme, and the patient's condition desperate from the start. In the latter, so long as there is a free external leak, internal bleeding is likely to continue. In both infection is certain if the condition continues. In both types of case the wound should be closed before the patient is sent on. Stout sutures inserted with large curved needles are used. A good grip should be obtained of skin and muscle. If the gap be large, a piece of gauze should be laid in the wound and the stitches tied over this. When for any reason suture of the wound is impracticable, the wound should be plugged with gauze, and strapping applied over it in the manner employed in strapping a broken rib. It should be practicable thus to render the wound air-tight. The improvement in a patient's condition brought about by suturing a sucking pneumothorax is immediate and dramatic.

Penetrating Wounds of the Knee-joint.—Great care must be taken to splint all cases in which joint injury is suspected. It is easy to diagnose a wound of the knee-joint when the synovial cavity is distended with blood or effusion. It is very easy to miss such a case at an early stage, when there is nothing to see but a small entry wound in the lower part of the thigh. The matter is, however, of great moment. A knee-joint into which a missile has carried infection, is much less likely to run an aseptic course after operation if distension of the synovial cavity has opened up all its recesses to the scattering of infected material. Failure to splint favours bleeding, effusion, and distension. The unrecognized knee case sent down "walking" does badly. It is a safe rule to splint all penetrating wounds near the knee.

The Field Medical Cards.—In conclusion I should like to say a word about this card. It forms the means by which you are enabled to communicate to the unit behind you any information which may be useful in the further treatment of the case. Look at it from this point of view: "If I were in the unit behind, what information should I like to have about the previous history of this case?" Put that down on the field medical card. In most cases nothing is needed but your diagnosis. Above all write legibly. Put the important wound or wounds first and be precise. "G.S.W. abdomen, arm, both legs," may mean anything. It may mean "G.S.W. abdomen perforating, also arm, right thigh, left leg." It may mean "G.S.W. fracture right femur also abdominal wall, left arm, left leg"; or again, "G.S.W. fracture left tibia, right knee-joint, also abdominal wall, arm." Note the occurrence of serious bleeding and the means taken to arrest it. Note such a thing as a sucking pneumothorax. Note the dose of morphine in the special space, and the administration of antitetanic serum. In short, try to help the man behind you. He will be grateful, although perhaps, at times, he may seem to lack exuberance in showing it.

ON GUNSHOT WOUNDS OF THE HEAD.*

BY

T. O. GRAHAM, M.D., D.P.H., F.R.C.S.I.,

MAJOR R.A.M.C.(S.R.).

DURING ten months' experience at a general hospital nearly 500 cases of gunshot wounds of the head have passed through my hands. Whilst very encouraging results have been obtained in many instances in which extensive damage to cranium and brain had occurred, I have to admit that in about 50 per cent. of those cases in which the dura was opened by depressed or indriven fragments of bone, by the missile, or subsequently opened at operation, death ensued; but, so far as I have been able to ascertain, my results compare favourably as regards mortality with those obtained by others engaged in operating on head injuries of war.

Cranial injuries may be classed in two main categories, according as the dura remains intact or is opened and penetrated.

In my series of 500 cases in which trephining had to be resorted to, the mortality was less than 10 per cent. where the dura was intact, and just over 50 per cent. in those in which the dura was penetrated.

ANAESTHESIA.

It has become my practice to operate under local anaesthesia in nearly all cases. Two-thirds of a grain of omnopon is injected hypodermically half an hour before operation. When the patient is on the operating table, 2 per cent. novocain and adrenalin is injected into the scalp in a complete circle of infiltration all around the area to be operated on. In this way a circumferential zone of "blocked" nerves is produced. The conscious patient feels no pain either while excising the infected scalp wound, trephining or nibbling away the bone, incising the dura,

* Being a paper read at the Boulogne Base Medical Society, August 24th, 1917.

or removing fragments of bone and metal from the disintegrated brain track. Moreover, this "barrage" infiltration method affords efficient haemostasis during operation, and there are no post-operative ill effects, such as restlessness and vomiting, which are so frequent after general anaesthesia. The patient can also be made to sit up in bed immediately after the operation. Recently I have only had to have recourse to general anaesthesia when the patient was very restless and semi-conscious.

The Operative Procedures.

In all cases it is essential that the lacerated scalp wound should be freely excised, in order to ensure an area as free from sepsis as possible for further intracranial interference. In most cases these further measures may be proceeded with by simply extending the original excised scalp wound and retracting the edges of the elliptical incision so produced. A wider area of bone may be exposed by a lateral incision at right angles to the ellipse, thus producing a triradiate incision. In some cases it may be preferable to turn down a wide flap denuding the bone of its pericranium. The subsequent measures to be adopted will be indicated by: (*a*) The findings of previous stereoscopic *x*-ray plates. In this connexion I cannot speak too highly of Captain H. E. Gamlen's *x*-ray work in cranial radiography. To him I am indebted for much valuable assistance. (*b*) The symptoms presented by the patient as elicited by careful neurological examination. In these neurological examinations I have fortunately enjoyed the advantage of the expert advice and guidance of Lieut.-Colonel Gordon Holmes, C.M.G. (*c*) The actual local findings in the wound and track in the brain at the time of operation.

Each case must be treated on its merits. It will be well to discuss the lines of treatment which I have followed in dealing with the following types of injuries.

1. *Fissured Fractures without Depression.*

In fissured fractures without depression it is only necessary to trephine in those cases in which the patient has exhibited definite neurological symptoms, such as Jacksonian twitchings or signs of increasing intracranial pressure—for example, severe headache, vomiting, increasing optic neuritis, and slow pulse. In such cases a decompression operation is performed and extradural clot removed, haemorrhage, if continuing, being appropriately dealt with.

If the dura is undamaged, in my opinion it should not be opened unless there are indications of large intradural clot, and even then the risk of opening the dura and courting disaster by infecting the subarachnoid space with contaminating sepsis from the wound probably more than counterbalances the risk to the patient's life of leaving the clot to absorb spontaneously if decompression has been efficiently performed by removal of bone and subsequent lumbar puncture. I have been driven to this conclusion as the result of a very sad experience. In my misdirected enthusiasm, engendered by an article written by a heroic cranial surgeon, I opened the dura in a few cases where there was an obvious clot under the dura, with disastrous fatal results.

That the scarring resulting from the absorption and organization of clot and disintegrated brain is more prone to produce epilepsy than the scarring of an open brain track is not proved.

2. *Depressed Fractures without Injury to the Dura.*

Very much the same line of treatment may be adopted where very slight depressions of the inner table have been shown by *x* rays. Masterly inactivity should be advocated, particularly in those cases in which the outer table is not depressed, and where it is morally certain that no injury to the dura exists. When extensive depression of all tables has occurred and the patient suffers from severe headache, increasing optic neuritis and vomiting, accompanied perhaps by focal symptoms of twitchings or loss of sensation, hemianopia, and so forth, it is advisable to remove the depressed bone, some of which may be elevated and replaced. Should there be a rent in the dura, with free escape of cerebro-spinal fluid, this may be arrested by the application of a muscle graft to the tear. This will seal it off completely.

3. *Depressed Fractures with Injury to the Dura by Indriven Fragments of Bone.*

If the *x* rays have demonstrated the presence of depressed bone with indriven fragments in the brain, and consequently perforation of the dura, it is usually my practice to trephine just clear of the depressed area, remove the depressed bone by nibbling with a laminectory forceps or De Vilbi's forceps all round the hole in the bone, so as to expose the healthy dura for at least a quarter of an inch around the dural opening. The brain track is then cleared of indriven bony fragments, disintegrated brain matter, and clot. The hole in the bone and the dura may be covered over by a pericranial flap. The scalp wound is then tightly sewn up, a small latex rubber glove drain being introduced under the scalp down to but not into the dural opening. A direct drainage tube of metal, celluloid, or rubber need only be inserted into the brain track in those cases in which marked sepsis of the track is evident or suspected, or has been demonstrated by bacteriological examination. In the removal of indriven bone from the brain track the greatest possible care and gentleness must be exercised in order to avoid further injury to the brain, and to obviate the risk of opening up protective adhesions of the subarachnoid space, and lighting up a spreading purulent meningitis. Moreover, there is a grave danger of opening into the lateral ventricle, which tends to bulge out towards the softened and yielding necrotic brain.

The dura should be treated with the greatest respect. I feel certain that the less interference with, and trimming of, the dura, the less will be the danger of hernia cerebri and meningitis.

A finger may be introduced gently through the hole in the dura into the brain track to feel for fragments of bone, which may be picked out with a pair of dissecting forceps, the intracranial pressure being sufficient to drive many of the smaller pieces, and most of the disintegrated and softened brain substance and clot. (At the discussion which followed this paper Major Harvey Cushing suggested the use of the soft rubber catheter as a sound for detecting fragments of bone. I have employed the catheter, and find that it acts as a satisfactory and efficient sound.)

4. *Penetrating Wounds with Retained Missile in the Brain.*

It may be taken as an axiom that the missile will almost invariably be found to occupy the deepest recess of the brain track, having passed in more deeply than the indriven fragments of bone.

To the question whether all missiles should be removed the answer is unquestionably "No." Some are too large, some are too small, some too inaccessible. As a result of Sargent's and Gordon Holmes's investigations into the after-results of cranial injuries, it has been shown that many patients with missiles retained deeply in the brain recover, and are not more liable to serious complications than men whose brains have been lacerated and have not retained foreign bodies. An abscess if it develops usually occurs round a retained infected bony fragment in the track rather than round the missile. If the metal can be easily removed without any further destruction to the brain tissue than that already produced by its entrance it should certainly be extracted. If it is lying deeply in the brain—for example, in the pons—or has passed through the lateral ventricle in its course, its removal should not be attempted. Surgical intervention in such cases is usually attended with very ill results.

5. *Perforating Wounds through the Brain.*

In the through-and-through perforating wound of the brain, if the bullet has passed through the frontal region from side to side, the entry and exit wounds should be excised and the routine toilet of the bone and dura carried out, indriven bony fragments being removed. The wounds may then be sutured up and drained by lateral glove or tube drains.

A through-and-through wound from side to side through both hemispheres in the parietal region has not reached me at the base hospital. If such a case did arrive so far I should be very conservative, and do little more than excise the infected scalp wounds. In two cases in which the missile had passed through one hemisphere I have adopted more heroic methods, and have attempted to

perform a more radical trephining operation. Both patients died with spreading septic encephalitis, which burst into the lateral ventricle, and purulent meningitis.

Haemorrhage from Meningeal Vessels and Sinuses.

Any of the above types of head injury may be associated with haemorrhage from the meningeal vessels or from the larger venous sinuses. So far as possible, the haemorrhage is arrested by means of a muscle graft taken from an uninfected area. In the case of larger sinuses the piece of clean muscle excised from an uninfected area is plugged into the lumen of the sinus. The sinus may be compressed by introducing a gauze plug between the dura and the inner surface of the skull. Since employing the muscle-graft method I have not found it necessary to insert gauze into a vessel to arrest haemorrhage, and for some considerable time I have not passed a ligature through the dura to tie a bleeding vessel, thanks to the efficiency of the muscle graft when applied to the surface of the dura over the torn vessel.

Complications of Trephining.

Only one or two of the subsequent complications of trephining will be dealt with. Herniation and meningitis naturally suggest themselves as the most common sequelae in the patients while they remain at the base hospital. Septic infection is the common cause. The treatment in each case is partly similar. The fundamental cause of serious herniation being undoubtedly septic infection of the brain substance, every possible precaution must be taken to avoid the introduction of infection, and when the brain is once infected to provide for efficient drainage. The careful toilet of the scalp wound and the complete removal of all infected and damaged tissue is therefore essential before trephining. The liability to the development of a fungus cerebri if the dura is opened and encephalitis ensues, is to my mind one of the strongest arguments against incising an intact dura, or enlarging the hole of an already opened dura. This lesson has been impressed upon me by my failures.

The extent of the hernia will depend upon the amount of infection, and be proportional to the size of the hole in the dura.

In order to diminish the tendency to herniation, and to bring the effect of gravity to our assistance in the treatment of hernia cerebri when it has developed, the patient should as far as possible be made to sit up in bed with a back rest. The patient should be kept quiet by the administration of bromides, chloral, or morphine. Lumbar puncture should be repeatedly resorted to. This may be performed under novocain local anaesthesia in most cases. It is highly undesirable to administer a general anaesthetic daily to a man who is already very seriously ill when a harmless local anaesthetic can be employed and is found efficient.

The amount of cerebro-spinal fluid drawn off averages about half an ounce. It should be withdrawn slowly, lest too rapid a reduction of the intraventricular pressure should cause an involution of the hernia with breaking down of subarachnoid adhesions. This may lead to a fulminating purulent meningitis.

It is dangerous to attempt to remove any of the hernia, owing to the very real risk of opening into a diverticulum of the lateral ventricle, which frequently protrudes into the herniated brain. The hernia should be protected with a ring pad, and kept as clean as possible. If the hernia is of moderately firm consistence, light bandage pressure may be applied to the surface.

Many of the measures adopted to prevent herniation apply equally in the obviation of meningitis—namely, removal of infected scalp and dirt, abstention from incising the dura unnecessarily, and careful treatment of the margins of the rent in the dura where it exists, to avoid breaking down recently formed adhesions in the subarachnoid space.

Urotropin in large doses may be given as a routine with a view to rendering the cerebro-spinal fluid sterile. Even when definite meningitis has become established it may be combated by repeated lumbar puncture. I have had several cases in which Captain H. Henry has demonstrated the presence of streptococci, staphylococci, and *B. perfringens* in the cerebro-spinal fluid, which have made a good recovery, although definite clinical signs of meningitis had developed.

I have not had sufficient experience of the treatment of intracerebral abscess as the result of gunshot wounds to pronounce any definite opinion thereon.

The subject of epilepsy will also be better dealt with by those who have seen the cases after they arrive in England.

Conclusions.

There are a few fundamental principles which, I think, should be followed in the treatment of cranial injuries:

1. Two stereoscopic *x*-ray plates are essential for accurate localization.

2. Careful neurological examination will often elicit signs and symptoms which will guide in operative treatment.

3. All cases should be operated upon early, before marked sepsis has intervened. The special "head centres" at a casualty clearing station provide for early operative treatment.

4. The dura should be treated with respect, and the risk of hernia cerebri and meningitis when the dura is opened always borne in mind. The dura should be incised only when urgent symptoms demand it, and not merely to avoid phantom symptoms which may never arise. Headache and a mild degree of optic neuritis, unless increasing in intensity, are not necessarily indications by themselves.

5. An attempt to remove foreign bodies should be made only in the case of those easily accessible. By "accessible" I mean those which can be removed without producing greater damage to the brain than that already created by the entry of the missile.

TRAUMATIC ANEURYSM OF THE LEFT SUBCLAVIAN ARTERY:

Successful Ligation at the Junction of the First and Second Portions.

BY

J. SINCLAIR WHITE, M.Ch., F.R.C.S.,

Lieut.-Colonel (R.A.M.C.T.);

C.C. 3rd Northern General Hospital; Senior Surgeon to the Sheffield Royal Infirmary; Professor of Surgery, Sheffield University.

The treatment of aneurysm of the left subclavian artery by ligature of the vessel always presents considerable difficulties, which are the greater the nearer the ligature is applied to the origin of the artery. From the experience of the following case I have been led to draw certain conclusions, which are set out at the end of the report.

Pte. M., aged 35 years, sustained a gunshot wound of the chest on August 16th, 1917, at Ypres. The bullet entered behind to the left of the third dorsal vertebra and escaped just above the clavicle at a point corresponding to the junction of the middle and inner thirds of the bone. He spat blood for a day or two afterwards, but the wound progressed favourably, and on August 30th he was transferred to England. By September 3rd his wound was soundly healed. There was partial paralysis of the left deltoid muscle, for which daily massage and galvanism were prescribed. He continued to pick up until November 16th, when a pulsating swelling appeared at the root of the neck. It had all the characters of an aneurysm, and as it steadily increased in size, Colonel A. M. Connell, assisted by Major E. F. Finch, operated on December 8th. The swelling proved to be a saccular aneurysm arising from the second part of the subclavian artery. Owing to the dense matting of the tissues around the aneurysm the placing of a proximal ligature was not attempted. Instead a stout catgut strand was tied around the base of the aneurysm where it sprang from the upper convex margin of the artery.

This procedure was for a time followed by marked improvement, and both swelling and pulsation almost entirely disappeared. Then the aneurysm began to enlarge again, and by the end of December it had become obvious that, unless something further could be done, it was merely a question of how long he would live. In view of its position and the knowledge that one would have to conduct a deep dissection through tissues distorted by inflammatory exudate and containing vessels and nerves of the first importance, further operative measures could not be lightly entertained, but, as the alternative seemed wholly black, the facts of his case were placed clearly before him, and he elected to be operated on a second time. The operation took place on January 2nd, 1918, under chloroform anaesthesia given by Captain N. Milner. I had the valuable assistance of Major G. Wilkinson and Major E. F. Finch.

Operation.

The steps of the operation were: (1) Removal of the scar of the first operation, together with some unhealthy granulation tissue. (2) Subperiosteal resection of the inner half of the clavicle. The sternal attachments of the bone were not divided, and the decorticated bone was made to pivot over to the right after being surrounded by gauze. (3) A long and tedious dissection involving the ligation and division of several veins, injury to the thoracic duct or one of its branches, from which much milky fluid escaped, and identification of the subclavian and internal jugular veins and the lower part of the scalenus anticus muscle. (4) Careful division of the scalene muscle with a small scalpel from without inwards. The fibres were divided close to the rib and very cautiously, taking especial care not to encroach on the anterior or internal portions of the muscle sheath. (5) The subclavian artery at the junction of its first and second portions was ligatured with a double strand of No. 1 Van Horn's catgut after it had been ascertained that occlusion of the artery at this point controlled the circulation in the aneurysm. (6) The displaced portion of the clavicle was fixed in position by strands of catgut passed through holes drilled in the bone, and the extensive wound closed by a series of superimposed catgut sutures, a small rubber tube being left in for seventy-two hours.

Aseptic healing followed, and beyond a small mass of cicatricial tissue no local evidence of the aneurysm can be discerned.

I am indebted to Captain J. E. Stacey for the notes of the case.

The lessons which I have learnt from a study of this case are:

1. To be prepared to meet with extraordinary difficulty in exposing the artery on account of inflammatory exudate caused by the bullet or shell fragment.

2. The value—indeed I might say the necessity—of resecting the clavicle in order to secure adequate room.

3. The advantage to be derived from dividing the scalenus anticus muscle in the way I have described. By the judicious use of small retractors after its division it is possible to draw inwards the phrenic nerve and to displace the pneumogastric and sympathetic nerves, together with the other important structures lying to the inner side of the muscle, and so reach the distal part of the first portion of the artery.

BLOOD PRESSURE IN WAR TRAUMATISMS:

A POSSIBLE SOURCE OF ERROR.

BY

EDGAR F. CYRIAX, M.D.EDIN.,

LONDON.

(Preliminary Note.)

DURING the last two years a number of observers have estimated the blood pressure in cases of war traumatisms and have published their results. Personal observations in the same line, chiefly made from observations on officers at the Swedish War Hospital in London, have convinced me that there is a possible source of error—namely, that in a certain proportion of unilateral traumatisms the pressures in the two arms may show wide differences. Not only is this so, but the readings on one day may be higher in one arm than in the other, but the reverse a day or two later. When differences occur they generally diminish as improvement proceeds and disappear some time before complete recovery.

In the cases mentioned below all the readings were taken with Riva-Rocci apparatus, and were measured alternately first from the one arm and then from the other on successive days. The interval between the two readings on the same day varied from five seconds (two apparatuses being employed) to ten minutes. Neither the length of this interval nor the arm in which the pressure was first estimated seemed to have any influence on the actual readings; this was shown by a number of controls taken from ten to thirty minutes later. These were obtained first from the arm which was dealt with last and with a different interval.

Thirty-six cases were examined in all; in twenty-six no difference, or only a slight difference (2 to 4 mm.), was found; such differences were considered negligible. In six cases differences of 6 to 8 mm. were found, which sank to about half this amount about three days later, and disappeared at the end of the week. The details of the other four cases are given below. Naturally a much larger number of observations will have to be made before definite conclusions can be drawn, but I think I should point out this possible source of error in order that those who are working on blood pressure in war traumatisms may avoid it.

CASE I.

Lieut. ——, suffering from a small septic shrapnel wound of the right shoulder inflicted on February 8th, 1918, with resultant muscular weakness of the whole right arm.

Date.	Right Arm (Injured Side).		Left Arm.		Difference.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 28 ...	98	68	104	68	−6	+0
March 1	108	68	104	66	+4	+2
,, 5	108	64	110	70	−2	−6
,, 9	112	70	110	72	+2	−2
,, 20	112	74	106	72	+6	+2
,, 30	108	72	108	78	+0	−6

The wound was practically healed on March 30th.

CASE II.

Lieut. ——. The right leg was so badly injured on October 24th, 1917, that it had to be amputated through its middle on October 25th; reamputation in its upper third was performed on December 21st.

Date.	Right Arm (Injured Side).		Left Arm.		Difference.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 21 ...	114	58	108	58	+ 6	+0
,, 22 ...	122	68	126	62	− 4	+6
,, 23 ...	126	76	108	62	+14	+14
,, 28 ...	114	52	104	60	+10	−8
March 9	130	54	122	56	+ 8	−2
,, 13	106	48	124	60	−18	−12
,, 18	130	62	152	74	−22	−12

All the observations except the last, when he had been walking, were taken while the patient was in bed.

CASE III.

Capt. ——. The right humerus badly splintered by a missile on September 20th, 1917. Bony union was quite good by January 8th, 1918, but he was left with almost complete paralysis of the musculo-spiral nerve. By the end of March, when he left the hospital, some amount of movement had returned in the extensors of the wrist.

Date.	Right Arm (Injured).		Left Arm.		Increase on the Uninjured Side.	
	Max.	Min.	Max.	Min.	Max.	Min.
February 23 ...	118	78	126	68	+ 8	−10
,, 28 ...	120	68	132	72	+12	+4
March 5	118	80	126	84	+ 8	+4
,, 6	92	74	114	76	+12	+2
,, 12	112	84	112	82	0	−2
,, 18	104	72	118	72	+14	0
,, 22	92	66	102	72	+10	+6

The pulse was much feebler and the auscultatory blood pressure sounds were less distinct in the right arm during the whole time that the patient was under observation.

CASE IV.

Lieut. ——, on April 12th, 1918, was hit by a bullet which penetrated the right lung, leaving him with a good deal of consolidation in the right lower lobe, and diminished respiratory movements on that side.

Date.	Right Arm (Injured Side).		Left Side.		Increase on the Injured Side.	
	Max.	Min.	Max.	Min.	Max.	Min.
May 16	128	72	110	78	+18	−6
,, 17	113	66	108	72	+10	−6
,, 21	128	80	112	72	+16	+8
,, 23	118	72	112	66	+ 6	+6
,, 24	118	72	114	70	+ 4	+2
,, 28	118	72	112	72	+ 6	0
,, 30	124	82	122	82	+ 2	0

The movements of the right lung were much improved on May 30th.

I am much indebted to the Medical Committee of the Swedish War Hospital for permission to publish the above results.

A NOTE ON THE "MAN VALUE" OF WORKING CLASS DIETS.

BY

MAJOR GREENWOOD, Captain R.A.M.C.(T.F.),

READER IN MEDICAL STATISTICS, UNIVERSITY OF LONDON (LISTER INSTITUTE),

AND

CECILY M. THOMPSON.

The "man values" of diets consumed by various samples of working-class families were published in a recent report by one of us and Viscount Dunluce.[1] The reduction to "man values" was effected by the application of the coefficients used in America, and provisionally adopted by the Food Committee of the Royal Society. It was, however, pointed out in an appendix to the report (op. cit., pp. 40–41) that the only direct measurements of consumption available to us, those of Slosse and Waxweiler, suggested that the consuming power of children was seriously underestimated, and consequently the "man value" of a family diet overestimated, by the orthodox method of calculation. Further evidence has now been accumulated, and the results of Lusk and others make it probable that the indications afforded by Slosse and Waxweiler's measurements are correct. The Inter-Allied Food Commission has accordingly adopted a new standard (Table I). The change in the coefficient for women from 0.80 to 0.83—that is, of 3.75 per cent.—causes all the estimated man values of the diets taken by female munition workers to be slightly too high. For families including several children the difference is substantial, and we have thought it advisable to recalculate the figures for all the family samples. The results are shown in Table II. It will be seen that the original estimates were much too high.

TABLE I.

Atwater's Coefficients.		New Coefficients.	
Ages.	Man Value.	Ages.	Man Value.
0–5	0.4	0–5	0·5
6–9	0.5	6–10	0·7
10–13	0.6	11 and over:	
14–15:		Males	1.0
Males	0.8	Females	0·83
Females	0.7	All children, combined ages*	0.68
16 and over:			
Males	1.0		
Females	0.8		
All children, combined ages*	0.51		

* These values (for use when the ages of children are not specified) were obtained by multiplying the appropriate coefficient by the census population of children at the age to which the coefficient applied and dividing the sum of the products by the total population under 16.

TABLE II.—*Energy Value of Various Dietaries.*

	Calories Calculated by Atwater's Coefficients.	Calories Calculated by New Coefficients.
Rowntree—York Families:		
Class I. Wages under 26s.	3,000	2,574
Class II. Wages over 26s.	4,102	3,390
Class III. Servant keeping	4,052	3,807
Board of Trade:		
I. Wages under 25s.	3,094	2,670
II. Wages 25s. to 30s.	3,348	2,879
III. Wages 30s. to 35s.	3,581	3,036
IV. Wages 35s. to 40s.	3,589	3,034
V. Wages over 40s.	4,013	3,330
British Agricultural Labourers:		
Northern Counties	3,654	3,085
Midland Counties	3,398	2,868
Eastern Counties	3,598	3,037
Southern and South-Western Counties	3,634	3,067

REFERENCE.

[1] An Inquiry into the Composition of Dietaries, with Special Reference to the Dietaries of Munition Workers. Medical Research Committee Special Report Series, No. 13, London, 1918.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

SEPTICAEMIA DUE TO MIXED INFECTION.

T., a man in good condition, was admitted to hospital in a typhoid state; the evening temperature on the day of admission was 104°. The history was that he had had for a few days before admission general catarrh and mild bronchitis. The pulmonary condition soon cleared up, but the temperature continued high, and he was thought to be suffering from enteric fever. With a view to establishing the diagnosis I made a blood culture and found in all the tubes *Bacillus septicus* and a staphylococcus. The culture was made on the tenth day of his illness, and the evening temperature had been 103° to 104° all this time. His condition was then critical, and, in fact, the medical officer in charge of the ward was of opinion that he could not live much longer. On the evening of the twelfth day of illness I gave him a mixed autogenous vaccine, the dose being 35 million of *B. septicus* and 50 million of the staphylococcus. The temperature almost immediately dropped to normal, which it had not reached previously during the illness, and his general condition was much improved; later it went up again to 101.8°; the next morning it was subnormal, but rose at night to 100°; the following day he had another similar dose of vaccine, and the temperature rapidly fell to normal, and so remained.

I consider a record of this case of importance for the following reasons:

1. I am unable to trace a record of any similar case, although the organisms found are extremely prevalent.
2. The autogenous vaccine apparently had an almost miraculous effect on the patient's temperature and general condition.
3. The case emphasizes the need for more frequent blood cultures in febrile conditions arising out of colds, bronchitis, etc.
4. Finally, the symbiosis present in the case is of interest; the presence of the staphylococci possibly augmented the virulence of the *B. septicus*.

B. Henry Shaw, M.D.,
County Asylum, Stafford.

Reviews.

LIFE OF MISS SOPHIA JEX-BLAKE.

Within a comparatively short time three books of great biographical interest have appeared, all dealing more or less with medical Edinburgh, and recalling "old, unhappy, far-off things and battles long ago." Mr. Miles's *Edinburgh School of Surgery before Lister*, reviewed on April 6th, is necessarily devoted solely to life and work in the northern Athens, whereas Sir Rickman Godlee's great biography of Lord Lister, already in its second edition, and the *Life of Sophia Jex-Blake*[1] now before us, deal fully with important events occurring in Edinburgh, which, however, was not the only scene of their subjects' activities.

As Lord Lister wished, his published life mainly tells the story of his surgical achievements, whereas Dr. Margaret Todd has contributed a much more elaborate study of her friend's intimate life and character. A member of a Tory Norfolk family and the daughter of highly orthodox parents, Miss Jex-Blake's electric personality was rather a disturbing element in her family,

[1] *Life of Sophia Jex-Blake.* By Margaret Todd, M.D. (Graham Travers). London: Macmillan and Co., Ltd. 1918. (Pp. 574; 4 illustrations. 18s.)

for whom she had the warmest affection, and it speaks well for her innate independence of mind that she survived the dwarfing if well-intentioned influence of her education which was chequered by many changes. She was born in 1840, and when 18 years old she took the then rather startling step of going to work at Queen's College, London, where she soon became tutor in mathematics, thus raising a protest from her parents, who considered it an indignity that she should receive a stipend. Intent on gaining a thorough knowledge of the education of women, she went to Edinburgh, lived in Germany, and subsequently in America, where, from her friendship with Dr. Lucy Sewall, she was attracted to medicine as a career; and after bringing out her book *A Visit to Some American Schools and Colleges* in 1867, abandoned her intention to adopt education in general as her life's work in favour of medicine. The second part of the volume tells the most exciting story of her battles in Edinburgh to secure the admission of women to the medical school, with all its ups and downs, heart-breaking delays and reverses, which preceded her eventual triumph. The opposition offered by Professor Christison, the riot at the Surgeons' Hall, the animated electoral meetings at the Royal Infirmary, and the libel action brought by Professor Christison's assistant against Miss Jex-Blake, ending in an award in his favour of one farthing damages, and her moral courage and wonderful determination in an uphill fight, are graphically told.

The account of her work in establishing the London School of Medicine for Women, and in getting the University of London to open its examinations to women in 1876-7, completes the second part of the biography, dealing with ten years of dramatic and incessant struggle for the rights of medical women. After this the question arose as to where she should settle down; London offered the best scope for practice, but now that the London School for Women had been taken out of her hands, it seemed inadvisable to remain as an onlooker, and finally, after much consideration, she decided on returning to Edinburgh—a rather unlikely choice after her experiences. There she practised for the next twenty years, founded the Edinburgh Hospital and Dispensary for Women and Children, and the School of Medicine for Women, and eventually succeeded in 1894 in getting the university to admit women.

In this well-written memorial of a great fighter for medical women the biographer has done her work well, but has perhaps gone to an extreme in her entire suppression of any reference to her share in Miss Jex-Blake's life, on which it would have been interesting to have some light.

HYSTERICAL DISORDERS OF WARFARE.

THE subject of the treatment of the *Hysterical Disorders of Warfare*[2] has been graphically described by Dr. YEALLAND in a clearly written contribution introduced by a preface from the pen of Lieut.-Colonel E. Farquhar Buzzard. The essence of the intensive treatment by powerful suggestion and the faradic battery is that the cure should be effected at one sitting however long that sitting may take. The author has successfully treated six cases of mutism in less than half an hour, and, on the other hand, an intractable case of the same disorder of nine months' standing required four hours' continuous treatment. The first eight chapters deal with various hysterical manifestations, and the ninth and last is devoted to malingering, which, like most observers, the author finds is rare. In the diagnosis of malingering from hysterical disorders the late Dr. Charles Beevor's criterion, that in the latter the antagonistic groups of muscles contract before the principal movers begin, is accepted. The cases were patients in the National Hospital, Queen Square, and most of them were of considerable duration, and had had experience of various forms of treatment. The records of the cases are dramatic and the success achieved very noteworthy. The personality of the author must obviously play a most important part in the results obtained, which command the respect of the reader, especially if he be sympathetic enough to imagine himself as the author's patient. As Dr. Buzzard remarks, the time-honoured employment of the faradic battery in skilful and determined hands has been shown to be at least as efficacious as hypnosis or ether anaesthesia, and resort to these alternatives with their obvious disadvantages was rarely, if ever, necessary. But as personality must count for so much, it would appear probable that the author will have more admirers than rivals in his methods.

[2] *Hysterical Disorders of Warfare.* By Lewis R. Yealland, M.D. London: Macmillan and Co., Limited. 1918. (Demy 8vo, pp. 252. 7s. 6d. net.)

NOTES ON BOOKS.

PROFESSOR C. L. GREENE'S large textbook of *Medical Diagnosis*[3] may be described as a *multum in magno* for the student and practitioner of medicine. It consists of a dictionary of diagnosis, a textbook of medicine, and a treatise on clinical methods, rolled into one. Beginning with a general introduction to the special problems of medicine and the outward signs of disease, it goes on to deal with disorders of the various somatic systems; it is on the subject of diseases of the heart and blood vessels that the author has most to say. There is a vast amount of information in the volume, and it is made readily accessible to the reader by means of an unusually good index. It is not a book for the immediate purpose of passing examinations, but it may be recommended as a comprehensive and admirably unorthodox textbook of medical diagnosis. Many of the illustrations are excellent.

Mr. LAURANCE BINYON has devoted much literary skill to the task of compiling an official record of the work done by Britain for the French wounded from the earliest days of the war until the end of 1917. The result of his labours is an attractive volume entitled *For Dauntless France*,[4] written in a spirit of warm admiration and affection for the heroic people who have been our allies in arms during the past four years of immeasurable sorrow, suffering, and endeavour, through which we have fought side by side against the common enemies of freedom. "Ce livre," writes the French Ambassador in his charming preface, "est comme un monument élevé à la gloire des deux nations, et un gage précieux de leur union fraternelle." And he goes on to explain that what gives all its worth to this lively description is the feeling which pervades it—the love of the people of France, who are so well represented by the simple soldier in his hospital bed, and admiration for that which hardly-tried France has done and will yet do for the safety of the world. M. Paul Cambon finds only one thing lacking, a defect easily remedied; it is that the book should be read in France as well as in England. This moving tale of service in hospital, convoy, and canteen, and of relief work among refugees and in devastated areas, reached us too late for notice on "France's Day"; but recent events on the Western front have increased—if that were possible—the sympathetic interest taken by the people of these islands in all that relates to the armies of indomitable France.

[3] *Medical Diagnosis for the Student and Practitioner.* By Charles Lyman Greene, M.D. St. Paul. London: W. Heinemann (Medical Books), Limited. 1918. (Med. 8vo, pp. xix + 1302; 548 figures; 41 coloured plates. £2 2s. net.)

[4] *For Dauntless France; An Account of Britain's Aid to the French Wounded and Victims of the War.* By Laurance Binyon. London: Hodder and Stoughton. 1918. (Demy 8vo, pp. 386; 6 illustrations. 10s. 6d. net.)

ALTHOUGH in septicaemia due to *Bacillus pyocyaneus* the meninges like most of the organs may contain the micro-organism, meningitis due to this bacillus is very rare. In 1917 Chauffard and Guy Laroche recorded a case of meningitis due to direct introduction of *B. pyocyaneus*, and quite recently Abadie and Laroche (*Bull. Acad. de Méd.*, lxxx, 15–18) have reported a similar case which was discharged cured. Nearly three weeks after a shell wound of the occipital region, causing a cerebellar hernia, the cerebro-spinal fluid was noticed to turn a bluish-green colour on standing. A week later signs of subacute meningitis, mainly spinal, appeared. Two intrathecal injections of electrargol were given without any benefit, and it was decided to give intrathecal injections of the patient's own serum. A culture of the *B. pyocyaneus* obtained from the cerebro-spinal fluid was agglutinated by the patient's blood serum in 1 in 1,000 dilution, but not by the serums of two normal subjects; the complement deviation test was positive with the patient's serum, but negative with the control serums. As the patient's blood serum therefore contained the *pyocyaneus* antibodies, 3 c.cm. were injected intrathecally on two occasions at an interval of thirteen days, and a rapid cure resulted.

Medico-Legal.

THE COVENTRY CASE.

Pratt and Others v. the British Medical Association and Others.

THE following is the continuation from page 125 of the report of this case:

Isaiah Farren, who had been connected with the dispensary from 1870 to 1912, said that he had been appointed honorary secretary in 1904, before which he was collector. The Medical Service Committee was formed twenty-five years ago. There had always been a wage limit of £2, and he had known cases of membership being refused. The rates of subscription were practically the same as other rates in Coventry. No one made any profit out of it except the medical officers and the paid servants. In September, 1909, he was requested to write to the Secretary of the British Medical Association with a view to getting the ban removed, and in June, 1909, a meeting took place in London. The meeting came to nothing because when they asked what would happen if they consented to the proposed conditions, the representatives of the British Medical Association intimated that the then medical officers must make peace for themselves. The practice of paying the collector by commission was given up when the question was raised by outside doctors. He could not be certain of the date.

In cross-examination, he said that there was always an agitation against the dispensary. The "outs" objected to the "ins." He did not know that payment of the collector by commission was objected to years before the alteration was made. Having regard to the scruples of the British Medical Association, he thought the commission system was bad. A member was entitled to remain although his wages increased to over £2. He remembered the issue of the Bradford Rules, and that Dr. Pickup approved of them. He also remembered the resignation of Dr. Fletcher, but his reason for doing so was always a mystery to the witness. When the five doctors resigned, one-third of the members also resigned. At the meeting in London it was suggested that there should be greater representation of the doctors on the general committee, that the medical staff should be open to all local members of the profession, and that there should be a rigid wage limit. These conditions they were willing to accept, but they refused the compromise because they wanted to stand by their doctors. They were never willing that the dispensary should be all under complete medical control. The dispensary had been started by a Dr. Smith, and gradually became self supporting. It was originally started to benefit poor persons who could not pay the usual fees. From 1906 they were willing to pass a rule to prevent the abuse of the wage limit.

Charles Alfred Gray said he had been connected with the dispensary for forty years. Most of the committee were public men in Coventry. He did not think many members exceeded the £2 limit. So far as he knew, the dispensary was always properly managed, but he always knew there was opposition to it.

In cross-examination, he said that at the present time the committee consisted mostly of working men who were taking part in public affairs. The medical officers had asked for a larger proportion of representation on the committee, but he always understood the agitation was for a larger control of the dispensary by the doctors. The dispensary was not registered as a friendly society until 1908.

In re-examination, he said that clergymen and employers had been members of the committee, and even now it included some employers of labour.

Mr. Turton having been examined,

Mr. Alfred Bonham, the present secretary, was called. He said he was appointed in 1913, but before that he had been auditor. He considered it untrue to say that well-to-do members continued to use the dispensary. He had prepared a history of the institution from 1831, when it was founded. In 1873 there were 9,000, and in 1888 20,000 members, when the receipts were £2,620. It became an approved society in 1912.

In cross-examination, he said that there were now 10,000 members. The dispensary gave medical relief to the actual subscriber and to his wife and children.

The answers to certain interrogatories having been put in, this closed the plaintiffs' case.

Mr. McCall, K.C., in opening the defence, submitted (1) that there was no illegal conspiracy; (2) that there was no illegal conspiracy causing damage to the plaintiffs; (3) that there was no defamation of the plaintiffs by either libel or slander; (4) that there was privilege for all publications; (5) that there was no express malice; and (6) that the suggestion that each defendant was agent for all the other defendants so as to make those other defendants liable for the individual acts was quite unfounded. As to the liability of the Association, it had not in any case been decided that a corporation as a legal entity could be guilty of conspiracy (Williams *v.* Manchester Corporation), although a corporation had been held liable for malicious prosecution on the specific ground that the corporation might have attributed to it the malice of its agents. Even in the case of a combination of workmen, it had been held, before the emancipation of trades unions, that a conspiracy or combination was not *per se* illegal (The Queen *v.* Rowlands). It was necessary to consider carefully the position of the parties and the scheme of professional protection which was embodied in the Memorandum and Articles of Association of the British Medical Association. By paragraph 3 the objects of the Association was "to promote the medical and allied sciences, and to maintain the honour and interests of the medical profession." All its income was devoted to that object. Here was a dispensary which the doctors in Coventry unanimously, or with one exception, pronounced to be detrimental to the honour and interest of the profession, and a number of persons, including the plaintiffs, had determined to assist and serve under the Association. He referred to the Mogul Steamship Company *v.* MacGregor, where the defendants (in the words of Lord Bowen) "had done nothing more against the plaintiffs than pursue to the bitter end a war of competition waged in the interest of their own trade." It was there held that such commercial motives did not deprive of "just cause or excuse" acts done in the course of trade which would but for such motive be justifiable. Unlimited competition in the interests of a profession or trade was *per se* justifiable, and not the less so because that competition was in the protection of the defendants' own trade interests. "Professional interests" were equivalent to "trade interests."

Mr. Justice McCardie: The net result of the Mogul case is this—that mere competition agreed upon by a body of persons with intent even to ruin a man is not *per se* actionable.

Mr. McCall agreed to this. According to the Mogul case, it was lawful for four grocers, who decided to ruin a fifth, to circularize his customers and undersell him. That in effect had been declared to be lawful.

Mr. Justice McCardie: The real point is—Have the defendants here gone beyond that? This case raises in the most acute form the permissive limits of quasi-coercive acts.

Mr. McCall, continuing, said that the case might be different if the object of the defendants was malicious, namely, to injure the plaintiffs whether they, the defendants, should benefit or not. Dr. Burke had admitted that he could not point to anything showing express malice against the plaintiffs on the part of individual defendants.

Mr. Justice McCardie: But the charge is conspiracy. Suppose it contains the ingredients of coercion and intimidation. I am not aware that it is any answer, if you have effected by the ingredients in a conspiracy, to say "I did that to benefit myself."

Mr. McCall, continuing, said that the mere fact that people had conspired gave no cause of action (Salaman *v.* Warner, 65 L.T. 132). It must be a conspiracy to do an illegal thing or a legal thing by illegal means. The results of the conspiracy must give a right of action. Much had been said about social as distinct from professional ostracism, but social ostracism was no part of the policy of the British Medical Association, even if social followed professional ostracism. Social ostracism did not give a cause of action.

Mr. Justice McCardie: A number of medical men may agree together not to meet Dr. A. professionally or otherwise. There is then merely abstention by agreement. But suppose the same men go to one who is friendly with Dr. A. and say, "If you meet him you yourself shall suffer the doom of professional boycott." Is that permissible in law? That is the question in this case.

Mr. McCall submitted that this was permissible. The members of the Division were entitled to say that A, B and C were doing what was detrimental to the interests of the profession, and that they would have no meeting or commerce with them. There was, then, no coercion in the legal sense.

Mr. Justice McCardie: Suppose a trade union leader says to an employer, "If you continue to keep that man Brown in your employment I will call every one of your workmen out." What is the difference?

Mr. McCall said the cases were dissimilar, and that mere calling or trying to call the men out would not give a cause of action. The Association only claimed to influence members of the Association. They indicate something which a Division has pronounced to be inimical to the interests of the profession, and invite the members to carry it out.

Mr. Justice McCardie: Mr. Schwabe calls it a threat.

Mr. McCall said that the use of the words "conspiracy," "threat," or "malice" was calculated to obscure the facts. The defendants merely invited—invited with sanction behind it—the Birmingham practitioners to aid in carrying out the Birmingham policy.

Mr. Justice McCardie: Does not that amount to a threat?

Mr. McCall admitted that it was a threat, but to be actionable it must have been an illegal threat. But the Association had made no illegal threat; they were entitled to say, "This Association, which is founded for the purpose of maintaining the honour and interests of the profession, has by its members who are on the spot and know the facts come to the conclusion that no medical men should be associated with this dispensary, and we invite you to help us." Even supposing the invitation or notice meant that in the event of refusal the recipient would be called on to explain or resign, it was within their rights.

Mr. Justice McCardie: The gravity of this case is that the Association, as it seems to me, are claiming the right to destroy a man professionally and socially because he fails to conform, not to the General Medical Council's standard, but to their standard of what a medical man should be.

Mr. McCall said that was what the defendants did in the Mogul case. If "threat" was the proper word to use, they were entitled to use the policy of exclusion to protect their own interests. As to the alleged libels, they were privileged. The publication was made in the BRITISH MEDICAL JOURNAL in the ordinary course of business, that paper being only read by the medical profession.

Mr. Justice McCardie: That might be so if it was purely a society journal. But it is registered as a newspaper.

Mr. McCall submitted that publication in the JOURNAL was well within the rule laid down by Lord Moulton in Edmondson *v.* Birch and Co., Ltd., and Horner, cited in *Fraser on Libel*, 5th edition, p. 250. There was no case proved of the libel being thrust upon any third person. In the absence of proved malice privilege was a defence. Privilege was not destroyed by taking reasonable means to bring a matter to the knowledge of those who were not members of the Association, but were members of the medical profession. The names were not given in the JOURNAL, and the only libel, or the typical libel on which the plaintiffs relied was the alleged libel that appeared on April 4th, wherein aspirants for these positions were divided into four classes, almost on the face of them exclusive.

Dr. Alfred Cox, O.B.E., examined by Mr. Hollis Walker, said that the British Medical Association had 18,000 members in this country and 5,000 elsewhere. There were 33,700 medical men in the United Kingdom. Having stated the objects of the Association, he said that it was in constant communication with all the Government departments. Every member agreed to abide by the regulations contained in the Articles and By-laws. It was divided into Branches which were subdivided into Divisions. The Coventry Division was one of the elements of the Birmingham Branch. These Divisions were formed in 1903. The profession was forced into organizing itself so as to form some other court which would fill up the hiatus or vacancy left by the limited powers of the General Medical Council. Before they took up the question of ethics each man was a law unto himself. They did not claim more than that it was best for question of conduct not sufficiently serious to be considered by the General Medical Council to be dealt with by some organized form of medical opinion, and they had gradually evolved the necessary machinery. Medical men signified their assent by joining in large numbers. The question of contract practice had often been before the Association. It had often led to abuses, as when irresponsible laymen used to farm out doctors, and made profit by running clubs at a very low price. There were three objections: (1) The medical man became a mere servant; (2) people took advantage of it who had no business to do so; (3) the payment was often quite inadequate. After a report issued in 1905 the campaign against contract practice began. The first form of warning notice, issued in 1907, enjoined people to inquire of the local Division, but they could also apply to him. In 1914 people were asked to inquire of him alone. Before any such notice was published in the JOURNAL he would receive a report from the local Division. It was then put before the Central Ethical Committee. The notice was usually put in for three months. Apart from contract practice, ethical procedure was considered by the Association, and in 1904 rules known as the Bradford Rules were formulated which formed the basis of the present rules. The Ethical Committee was also formed, which covered the whole range of professional conduct, good taste and etiquette. Their introduction often succeeded in establishing good relations. Rule "Z" (B) provided for a notice being sent by a Division to a Branch, but the Division was autonomous, and might not require the help of the Branch. The machinery of the Division in relation to the Coventry Dispensary was not invoked until 1906. Until 1903 the Birmingham Branch had local jurisdiction over the dispensary dispute, and they had frequently expressed their opinion about it. They had never attempted to deal with the question of private fees, but contract practice was on a different footing. An individual doctor could deal with an individual patient, but when it came to dealing with friendly societies, trade unions, and large bodies they required a combine like the Association. The General Medical Council, which was for the protection of the public, could not interfere.

Mr. Justice McCardie: Why should not a doctor deal with folk as a body?—The danger lies in the growth of power on the part of that body. In Coventry at one time it used to be a boast that they had nearly half the population in this dispensary.

Continuing, he said that it was not wholly a question of finance. It was a question of free choice between doctor and patient, and the abolition of friction between members of the profession. They believed the interests of the profession and the public were best served when there was no interposition of a lay body.

Mr. Justice McCardie: I do not see where the question of ethics comes in except so far as it may be ethical righteousness to stand by your professional brethren when they are fighting for the improvement of their pecuniary interests?—Ethics also come in because in this dispute between the medical officers of the dispensary and the local men there was bad feeling.

Continuing, witness said that under the Insurance Act the State had already fixed certain minimum fees which were higher than those paid at Coventry; but it was fair to say that the dispensary were now paying to their medical men on behalf of a large number of their patients the State fee which they got from the State.

Mr. Justice McCardie: I have been asking a number of questions, but I feel this case is striking so acutely at the welfare of the medical profession that I want to understand the bases of the matter.

The witness was then referred to various letters and minutes. With regard to the meeting in London at which there was an attempt to arrive at an understanding the position was that they could not recognize the men holding the appointments. The Coventry men would not recognize them, and as against them the boycott would remain even if the rules were altered as desired.

Mr. Justice McCardie: Has the Association no power to require its members to abstain from boycotting the individuals they have boycotted?—These men (at Coventry) had been fighting at very considerable trouble to get the dispensary rules altered. They had been prevented by the interposition of these four gentlemen, and it was not reasonable to expect that they would allow them to remain in possession of the spoils. That was our attitude. Continuing, witness said it was immoral to allow them to so remain—immoral in the sense that they had failed to act up to the conduct required for the pecuniary advancement of the profession. The main objections of the Association were three: (1) Its growing power was diminishing opportunities for private practice; (2) people were admitted who ought not in the opinion of many to have been admitted; (3) many of the Coventry doctors had no opportunity of taking part in the dispensary practice. He also desired to emphasize that it gave rise to local friction and disputes. Professional honour involved something more than fees.

Mr. Justice McCardie: The point you are helping me on is a point arising in so many branches of professional activity apart from doctors. Hence the curious importance of this case. The great problem is: Are the defendants entitled to ruin the individual in order to benefit the greater body?

The witness was then taken through a large number of documents. He said he had no ill-will towards any of the plaintiffs—he did not know them personally.

In cross-examination, he admitted it was a serious thing to say of a medical man that he had done something detrimental to the honour of the profession, but it was not the same as saying he was guilty of infamous conduct in a professional respect. It would justify men in an association binding themselves together to ostracize him, and to agree not to meet him professionally. Some people might not, of course, accept their standards.

Mr. Schwabe: Do you say that these gentlemen (we need not bother about the gentleman who is dead now) have done something which renders them unfit to be met by anybody in the profession? Yes or no?—No, I do not.

They are perfectly honourable members, so far as you know, of their profession?—I know nothing against them except taking this appointment.

And you agree with me that is not a thing which renders them persons who have been guilty of any conduct detrimental to the interests and honour of their profession?—How can I agree with you when my Association have said so? It depends upon the standard. Had I been a member of the Coventry Division I should have thought so.

Never mind the Coventry Division. Give me an answer as a man. I want to know your definition of "dishonourable."—I consider their action dishonourable in coming into Coventry and preventing the Coventry profession reaping the fruits of their attempts to reform the dispensary.

Continuing, witness said that having regard to its past history he could not admit that to hold office there now was not detrimental to the honour of the profession.

Mr. Justice McCardie: It is a fair question. Leave out the past history. Taking the dispensary as it is, in your view would a man be acting against the honour and interests of the profession if he became an officer subject to the rules we know of?—In such conditions it would entirely depend upon the opinion of the other local medical men who would be affected by its operations. They would know better than we do in London. But I cannot dissociate the institution from its past history.

Mr. Justice McCardie: Suppose, for example, Dr. Pickup were to accept a post there now, what would you say?—Leaving the present men there?

Mr. Justice McCardie: Yes.—I should say he had betrayed the whole business.

Mr. Justice McCardie: Take Dr. Orton?—Neither he nor any other Coventry man would take the appointment until satisfied the conditions were satisfactory.

Continuing, witness said ostracism, even if advocated by the Division, would not necessarily follow unless the Central Council approved.

Mr. Justice McCardie: The scheme presented by the British Medical Association appears to be that the Central Ethical Committee dictate the standard of honour.

Continuing, witness said he did not consider it detrimental to the honour and interests of the profession to hold an appointment under lay control. Ostracism did not necessarily follow conduct detrimental to the honour and interest of the profession, but it would generally. There might be a different standard of ethics in different parts of England. They tried to conduct their inquiries impartially. If Dr. Holmes was condemned without being heard it was wrong. With regard to Dr. Holmes being refused attendance at a hospital when he had a poisoned finger witness said he might have gone to one of his colleagues. The warning notice was meant to convey that from a professional point of view a man should not go before satisfying himself before he goes that he would be wise in doing so.

(To be continued.)

THE University of Wisconsin has received donations amounting to £20,000, which, together with an appropriation of £10,000 from the Legislature of 1917, will be used in the construction of a new infirmary for the medical school.

British Medical Journal.

SATURDAY, AUGUST 10TH, 1918.

THE FIFTH YEAR.

At the beginning of this fifth year of war the British Forces are on many fronts. Lord Curzon last week enumerated seven—France and Flanders, Italy, Salonica, Palestine, Mesopotamia, Persia, and Egypt; to these must be added East Africa and North Russia and Vladivostok. The Prime Minister said on Wednesday that, including men already with the colours on August 4th, 1914, 6,250,000 men had been raised for the army and navy in Great Britain alone, most of them by voluntary recruiting; the Dominions had contributed 1,000,000, and India 1,250,000. The Dominion forces are self-contained and have their own medical services, and the work both of administration and treatment has been carried out with great ability and success. On the British Army Medical Service falls the responsibility for the preservation of the health of some six million men in every sort of climate from the arctic to the tropic and for the care and treatment of their sick and wounded; its officers are now gaining as varied an experience of the influence of climate on health as that which falls to the naval medical officers to whom is committed the charge of the health of the men of the Royal Navy, whose number has increased from 145,000 to 420,000, not counting another million in the mercantile marine. The answer to any question as to how the Army Medical Service has discharged its responsibility will be that the large measure of success attained altogether outweighs the failures. The success on the Western front has opened a new chapter in the history of medicine more than vindicating claims made for modern methods of prevention that by them the enteric fevers, the scourges of armies in the past, can be so controlled as to have little effect on invaliding rates. Louse-borne diseases have also been held in check, and the discovery that trench fever is thus transmitted will stimulate the authorities to acquiesce in the vigorous measures medical science recommends for the destruction of this vermin, since it is now proved to be not merely a nuisance to the individual, but a constant threat to the maintenance of the man power of armies.

It is inevitable that the successes of preventive medicine, which are always negative, should never quite receive all the praise they deserve, and to a lesser extent the same is true of surgery; only those who are at the pains to study the surgical history of past wars can appreciate the volume of suffering and the wreckage of permanent disability saved by methods of wound treatment devised and systematized during the last three years. They are passed in rapid review by Colonel Maynard Smith in the address published at p. 127, but we may especially instance, first, the excision of infected tissues, which we owe to the surgeons of the French and British armies, in the latter particularly to the apostolic fervour of Colonel Gray of Aberdeen; and, secondly, the antiseptic method of treatment founded on the scientific work of Dakin and brilliantly applied in practice by Carrel.

A retrospect of some of the other campaigns affords little cause for congratulation. The story of the Dardanelles has not been told; it has not been considered politic to publish the report of the Statutory Commission, and the mouths are for the present closed of those who witnessed the havoc wrought by dysentery and wound infections among the gallant Englishmen and Anzacs who were sacrificed to want of foresight and to lack of administrative capacity to deal with new conditions which required the administrator to get out of his rut.

The failure of the Mesopotamia campaign in its early stages was primarily due to the inadequate conception the Government of India and the Commander-in-Chief in India formed of the magnitude of the military task. This initial failure called to life every vice of a system which had been allowed to become antiquated, owing to the penny wise pound foolish policy dictated by the Indian Finance Department. The medical units were insufficient, and their equipment was out of date. Moreover, when the scope of operations was extended, reinforcements were sent without essential medical units to join a force fighting in a treacherous climate. It was of course inevitable, when failure overtook the expedition, that the medical organization should suffer with the rest, and indeed more than the rest, for the task of the medical service in a retreat is extraordinarily difficult even when transport is adequate and lines of communication free; but in this case land transport was utterly insufficient, the country was infested by marauding native bands, and the river, the natural artery of the country, was without hospital ships or carriers. In this dire emergency every medical officer from the junior to the senior did what was humanly possible, but the means were wanting. All through the early stages of the campaign there was failure also to take effective means to check dysentery and malaria. The root of the mischief was in the Government of India, dominated by the baneful influence of its Finance Department. But the Army Medical Service cannot be excused for its failure to speak out and the want of elasticity of mind which prevented it from making use of the experience ready to its hand in India. Automatically, under the system which has been allowed too long to prevail, the principal medical officer of the British army in India became responsible for the medical plans of the whole force, British and Indian alike. The Indian Medical Service became little more than a supply department for certain purposes; officers of that service enured to the prevention and treatment of tropical diseases, and surgeons of wide clinical experience were not used, or were placed in subordinate positions where they could have little influence on the course of events. To malaria, dysentery, and wound infections the men fell victims in thousands, while the I.M.S. officers and civilian practitioners with the army had to stand by powerless to apply the preventive measures which they knew would have saved lives and lessened invaliding.

It is to be feared that this instance of disinclination to make use of skill and experience because their possessors do not belong to the regular Army Medical Service is typical of a state of mind which has prevailed too long, and that in spite of the new spirit breathed into the service by the institution of the Royal Army Medical Corps, there is still enough of the old Adam remaining to cause many of its senior officers to regard with a jealous eye proposals for the advancement of any one, not a regular, to positions of large responsibility. Good administration is essential, but it is only a means to an end. There is a tendency in every Government department to make it an end in itself and to entertain an absurdly exalted idea of the ability needed for administration. The regular Army Service has not escaped, and some of the results have spelt injustice to individuals and injury to the nation

and its soldiers. The Army Medical Service started the war with a small body of regular officers, and many Territorial medical officers. The treatment the Territorials have received from the War Office since the war began has been very shabby, and the Army Medical Service has failed to do many things within its power to mitigate their lot.

If we compare the success in France with the failures in Mesopotamia and, we fear we must add, East Africa, we shall, perhaps, find the reason in a greater disposition to accept help and advice, even though they came from beyond the charmed circle. Sir Arthur Sloggett showed that he had a mind open to suggestions, not only as to the best conduct of medical and surgical measures and laboratory investigations, but also as to their organization, on the sound principle of choosing the best man irrespective of his army status. He was ready, we believe, to accept some, at least, of the suggestions for economy made by the Committee of Inquiry which went to France last year, so that, though its report has not been published, its labours have not been wasted. We have every reason to believe that his successor, Major-General Burtchaell, is of the same mind. The need of economy in medical man power grows with the increase in the number of men under arms and in the number of separate campaigns. It is a national obligation on the Army Medical Service to make the best and most economical use of the large body of medical men holding Territorial and temporary commissions. We believe—nay, we are sure—that, whatever may have been accomplished in this direction in France, very much remains to be done at home. Economy may be effected by improvements in organization which will give every medical officer a reasonably full day's work, but it may be even more effectually obtained by using the talent available to the best advantage and in the most suitable types of work.

WAR GAS POISONING.

THE Chemical Warfare Medical Committee was appointed in January, 1918, by the D.G., A.M.S., with the concurrence of the Controller of Chemical Warfare, Ministry of Munitions, to deal with aspects of chemical warfare in which medical science is concerned. This Committee, of which Professor Cushny, F.R.S., is chairman, and Dr. J. S. Edkins secretary, has recently presented a report on the symptoms and treatment of the late effects of gas poisoning.[1] The gases used commonly by the enemy are of three main varieties—suffocative, vesicant, or pure lacrymatory. In the first cloud gas attacks in April and May, 1915, chlorine was liberated from cylinders to drift forward on the wind. In December, 1915, and in the attacks from April to August, 1916, phosgene, $COCl_2$, was used, together with chlorine, but since the date mentioned no cloud gas attacks have been made by the enemy. Lethal gas shells were used in the autumn of 1916; they contained phosgene, chloropicrin, CCl_3NO_2, and other allied lung irritants in varying proportions; in July the enemy introduced the mustard gas shells containing the vesicant dichlorethyl sulphide $(C_2H_4Cl)_2S$, commonly called yperite. Later, shells containing organic arsenic compounds, such as diphenylchlorarsine, were used. The general aim of the enemy in the present use of gas shells is to fire simultaneously shells of different types, some of which will cause so much sensory irritation that the man will discard his respirator, and then become vulnerable to lethal shells containing phosgene and similar substances.

Owing to this mixture of shells the symptoms reported by patients are often, it is stated, very confusing, and it is perhaps on this account that some of the details in the report are not very easy to put into their proper place. The suffocative gases act mainly on the alveolar epithelium of the lungs, causing acute oedema of the lungs, of very rapid onset, and thrombosis of the pulmonary capillaries. They have less effect on the air passages, but may have an irritant action on the pharynx, larynx, and bronchi. Symptoms of asphyxia, due to affection of the lung alveoli and accumulation of fluid in them, appear within three to twelve hours after exposure. Respiration is rapid and usually accompanied by pain, often intense, in the chest. There may be violent fits of coughing, but the amount of expectoration, profuse in some cases, is scanty in others. Patients with severe pulmonary oedema fall into two groups: (*a*) Those with definite venous engorgement in whom the breathing is not only increased in frequency, but the actual amount of air reaching the lungs is greater than normal, while the pulse-rate is full and of good tension, and not much above 100. (*b*) Those with collapse, in whom the breathing is shallow, so that there is little true hyperpnoea and the pulse is weak and rapid (130 to 140). In patients who recover, and escape secondary bronchitis or bronchopneumonia, the oedema fluid is absorbed within a few days.

Dichlorethyl sulphide is an oily liquid; it is scattered from shells and slowly evaporates on the ground. If it is spattered on the clothing it may act directly on the skin. At first the person exposed to the evaporating oil merely notices a smell reminding him of mustard. Definite symptoms come on later; the first is conjunctivitis, which appears after about three hours and rapidly becomes very acute, being accompanied by photophobia and swelling of the lids, by which the eyes may be closed for days. A little later, from the fourth to the eighth hour, vomiting and epigastric pain supervene, as a rule, and may be persistent and intractable. Later still, after about twelve hours, widespread erythema with local vesication occurs, going on to definite burns. The affected surfaces frequently become pigmented, and when the liquid yperite itself comes into contact with clothes or skin deep burns may be produced. Laryngitis, pharyngitis, tracheitis, and bronchitis develop from twenty-four to forty-eight hours after exposure. The lesions vary from simple surface irritation to ulceration of the mucous membrane of the whole passages, followed by infection of the raw surfaces which may be so extensive and severe as to cause death either directly or through secondary bronchopneumonia.

In both kinds of gas poisoning (by suffocative or vesicant fumes), if the patient is not treated in the early stage by the administration of oxygen, there is deficient oxygenation of the blood, and to this some of the late signs and symptoms would appear to be attributable. These late signs and symptoms, which occur most frequently after phosgene gas poisoning, closely resemble those of "D.A.H." or the "effort syndrome," and are often complicated by functional nervous disturbances. In the treatment of these general symptoms prolonged rest in bed is contraindicated. The patients should be encouraged early to undertake increasing amounts of exercise, either by graduated physical exercises or by definite amounts of walking. The effect of the exercises must be carefully watched, and if there is obvious respiratory distress for more than a few minutes, or if the pulse-rate remains appreciably above the resting rate for more than five minutes, the exercise must be adjudged too severe.

[1] BRITISH MEDICAL JOURNAL, June 22nd, 1918, p. 702.

Patients who are making good progress should be returned as soon as possible to army discipline. Prolonged stay in hospitals, either primary or auxiliary, is particularly apt to exaggerate the neurotic conditions, which are then difficult to overcome.

Recent experience of casualties from mustard gas in France has shown that the best results are obtained by vigorous measures at the outset for all except the very serious cases. Slight burns heal under a non-irritating protective paste; if they are extensive the patient should be given a hot alkaline bath for twenty minutes or half an hour, which removes the old dressings and promotes cleansing of the infected areas. These baths, which may be repeated two or three times a day, should be followed by the application of a paraffin spray as a protective dressing. The conjunctivitis, sometimes complicated by keratitis, has generally become subacute when the patient reaches a home hospital, and it may be necessary to keep him away from the light, or to give him dark glasses or a shade. It is important, however, that the use of these appliances should not be continued beyond the inflammatory stage, otherwise functional photophobia is likely to result. Every effort should be made to direct the patient's attention from the condition of his eyes by finding him constant employment. Persistent and troublesome vomiting, observed sometimes in the late stage, is said to be undoubtedly neurotic. Means should be taken to convince the patient that the condition is not serious; and as there is usually a deficient amount of hydrochloric acid in the gastric secretion he may be given a little of this (20 minims of dilute acid in an ounce of water) after meals. Exposure to pure lacrymatory gas has no after-effect, and men are not sent to the United Kingdom on this account alone.

A MINISTRY OF HEALTH.

It appears that the committees of medical men appointed by various bodies to consider the important matter of the formations of a Ministry of Health have lost no time in getting to work. We mentioned a fortnight ago that the Joint Committee of the Royal College of Physicians of London and the Royal College of Surgeons of England had been joined by three experienced members of the public health branch of the profession. Lady Barrett, M.D., has also been added. We hear that this committee has had an interview with the Cabinet Committee for Home Affairs, over which the Home Minister, Sir George Cave, presides. We hear also that the committee of the Royal Society of Medicine has been holding frequent meetings, and its deliberations will no doubt assist in formulating the views of the medical profession on the proposed bill. The Ministry of Health Committee appointed by the Council of the British Medical Association will probably meet shortly, when doubtless the scheme adopted by the Council will be reviewed in the light of any new material which may be brought to notice. We trust that discussion will result in the finding of some method of pooling ideas and information collected by these three committees. The functions of the proposed Ministry will be mainly medical. No Government can avoid consulting the medical profession before adopting a policy that must have such far-reaching consequences to the welfare of the whole community—the one aim of a movement which has aroused so much interest in many various quarters. If it is found that the profession is speaking not with one voice, but with three voices, and if it should happen that these voices are not in unison, an honest Government will be in serious difficulty, and the politicians will be disposed merely to play off the owners of the voices against one another. In a national question of such importance as the proposal for a Ministry of Health it would be wise to consider how a great united profession can best make its influence felt in the interests of the country.

BACTERIOLOGY OF THE INFLUENZA PANDEMIC.

The pandemic of influenza has not spared any part of Germany. The clinical course does not seem to differ from that run by the disease in this country. Relapses and fatal attacks of pneumonia have been particularly noted. The clinical picture is declared to be identical with that of the last pandemic of 1889.[1] A statement made and generally confirmed at a special meeting of the Munich Medical Union on July 9th was to the effect that persons under 30 years of age mainly fall victims to the disease; this was attributed to a survival immunity in the elder generation. The meeting considered all the aspects of the epidemic on the basis of the hospital and university material of Munich. Pfeiffer's bacillus had been found only exceptionally. Streptococci, and occasionally pneumococci, were recovered from the sputum and organs, and also from the blood of patients. Similar findings were recorded in 1889, and thus the present results were in "keeping with precedent." Pfeiffer's bacillus was not found until 1892, although it should have been impossible to overlook it in 1889. The editors of the *Deutsche medizinische Wochenschrift* have addressed a circular to all the leading bacteriologists in Germany requesting information as to the results of their laboratory investigations. Pfeiffer himself had reserved his final opinion as to the relationship of this pandemic with those of 1889 and 1891–92. He had not examined a sufficient number of cases at Breslau, but found his bacillus in some, while failing to recover it from others, and was still investigating the causes of this discrepancy. Grüber answered from Munich: "Influenza bacilli not found hitherto—investigations proceeding." Ulrich Friedemann, who is in charge of the infectious wards of the Virchow Hospital, Berlin, expressed his belief that the symptomatology and complications of the epidemic correspond exactly with those described in 1889–90. He had not found Pfeiffer's bacillus, streptococci and pneumococci being the most common agents of the complicating pneumonias. The influenza bacillus he thought might be evading capture on account of faulty methods, though the possibility that there may be epidemic diseases clinically resembling influenza of which the Pfeiffer bacillus is not the agent should not, he considered, be overlooked. Uhlenhuth has so far reported from Strassburg the same contradictory results as those of Pfeiffer. Kolle reported, under the date of July 18th, from Frankfort that he had failed to detect Pfeiffer's bacilli in any of the few cases he had thoroughly examined. In practically all cases there were found, however, large numbers of a Gram-positive coccus, often in a pure culture or in symbiosis with pneumococci. The diplococcus tended to develop involution forms and to grow in very long chains in the condensation water. He regards it as the agent of a secondary infection in the "Spanish disease," which he thought may not be identical with the pandemic influenza of 1880–1893. The finding of this pleomorph Gram-positive diplococcus is very interesting in view of the observations of Rosenow and his pupils in the United States. Very similar results have, we believe, been obtained in the British armies in France, as noted in our columns of July 13th and 20th. The Medical Research Committee, to which we are indebted for the abstracts of the German publications quoted above, hopes that the German experiences may attract the attention of bacteriologists in this country. The Secretary asks them to send the results of their observations during the epidemic in this country to him at 15, Buckingham Street, Strand, W.C.2, in order that the results gained here may be collated, with a view

[1] Der bakteriologische Charakter der "Spanischen Krankheit," *Deut. med. Woch.*, 1918, *44*, 775, and 808. Editorial notes, *Münch. med. Woch.*, 1918, 65, 804

to the organization of such co-ordinated work as may be found possible for the study of the secondary waves of infection that are to be expected.

ARMY VOTERS ABROAD.

MEDICAL men serving abroad have, in common with other members of the forces on naval and military duty out of the United Kingdom, direct interest in the arrangements being made for the category of parliamentary electors known under the new reform act as "Absent Voters." Nearly all medical men doing such duty will have a vote under the ordinary qualification for some constituency, and most of those who are graduates can also claim a vote in respect of university qualification. This matter was dealt with in the BRITISH MEDICAL JOURNAL of June 1st in so far as interpretation of the Act was then possible. Since then progress has been made in getting matters into form. By an Order in Council it was laid down that all service electors coming within the Act, who are at the time of a general election in France or Belgium, shall record their votes by post; the voting by all other service electors outside the United Kingdom will be by proxy. The method of proxy voting has already been explained. For service electors (other than university electors) absent voters' lists have been in process of preparation, and are practically completed. Cards to be posted to these absent voters are now being printed. Registration officers will in due course see to their dispatch. These cards will acquaint absent voters with the particulars of their registration, and will contain instructions as to voting. The registration officer will keep a record for the time being of the address of any person on the absent voters' list, which may be furnished to him by the voter, the Admiralty, the Army Council, or the Board of Trade. In the case of university electors no list of absent voters is required. The returning officer for each university prepares a register. It is laid down in Clause 36, Section 3 (*b*): "It shall not be necessary to prepare an absent voters' list, but the right to vote by proxy may be exercised by any person who would be entitled to exercise such right if his name were on an absent voters' list, so long as all other conditions enabling him to vote by proxy are fulfilled." Apparently within certain limitations it depends upon the registrar of each university to determine when his register shall be completed. The Local Government Board does not, at any rate, regard the matter as coming under its control, the arrangements for university voting being made under Orders in Council. But the probability is that the lists will be completed in each case by October 1st, the date at present fixed by the Local Government Board for its own purposes. Certain formalities will need to be gone through previously by claimants, and it will be a prudent thing for every graduate of a university to communicate with the registrar of his university or some other authority to ascertain if his name be on the register. This remark, in fact, applies to all graduates whether in the fighting services or not.

MALARIA IN ENGLAND, 1917.

ON May 25th, in discussing the action initiated by the Army Medical Department for dealing with soldiers returned to this country with malaria, and the risk thereby involved of the establishment of malarial centres in this country, we stated that the Army Medical Department was working in co-operation with the Local Government Board, which had secured the services of two inspectors of wide experience of malaria in India—Lieut.-Colonel S. P. James, I.M.S., and Lieut.-Colonel E. Wilkinson, I.M.S. It was added that the Local Government Board had in preparation a memorandum on the subject, and this has now been issued.[1] We learn from it that in certain south-eastern counties of England the number of cases of malaria undoubtedly contracted locally which occurred during the summer and autumn of 1917 was 178, although it is thought certain that others occurred the nature or indigenous origin of which was not detected. In all cases the disease was benign tertian, was not very severe, and caused no deaths. Of the total cases 136 occurred in men serving in the army, 19 in the navy, and 23 in civil life. Only in two or three areas, notably in the Isle of Sheppey and the adjacent region between the Medway and the Thames, and the neighbourhood of Sandwich on the Kent coast, were the cases sufficiently numerous to warrant the statement that malaria was locally prevalent, and even in these the prevalence was inconsiderable. Malaria has been made a notifiable disease in Sheppey, Queenborough, Sheerness, and New Romney, but notifications have been received only from the first two. The hope is expressed that any medical practitioner who comes across a case which he suspects to be malaria of indigenous origin will communicate the fact to the medical officer of the district, or direct to the Local Government Board, and utilize the facilities provided for the examination of blood specimens. The summary which Dr. G. S. Buchanan, assistant medical officer to the Local Government Board, has prefixed to the report, contains a discussion founded on a very practical paper contributed by Colonel James on the principles which should govern preventive action. Writing on July 20th, we gave an account of a map prepared by Mr. W. D. Lang, M.A., showing the known distribution in England and Wales of the anopheline mosquitos. This map is reproduced in the report with which we are now dealing and is accompanied by an essay by Mr. A. J. Groves, acting entomological investigator to the Local Government Board. Anopheline mosquitos, as was pointed out, are known to exist in many parts of England and Wales, and the survey is far from being complete. A national campaign against the breeding places is set aside as too great a task, as also are measures designed to produce a temporary reduction in the numbers of anophelines in areas where they are specially abundant. If carried out on an adequate scale such a scheme would, it is found, make demands on labour and entail an amount of interference with agricultural work that cannot be asked for at the present time. Men actually suffering from malaria are segregated by the army in special hospitals when actually ill, or in special camps or in convalescent establishments. If they are treated in other hospital units and there is a risk of mosquito infection the ward is screened and other precautions taken, but there are a large and increasing number of men who in the intervals of attacks are well, or in fair health, though liable to relapse, and they cannot be segregated and kept from their proper army work, or from going on leave to their homes, for the long periods which would be necessary. Reliance is therefore placed upon the curative administration of quinine in such a way as to secure as far as possible the "disinfection of the infected," or at least to obtain a great reduction in the period during which the blood would contain the parasite, and also in the intensity of possible infectivity. The general conclusion of the Board's report is that it will be sufficient at the present time to limit exceptional precautionary measures to the particular malaria-suspected areas to which reference has already been made. With this conclusion we must remain satisfied, fortifying our hopes by Sir Ronald Ross's calculation of the risk of the spread of malaria, which he reduced to an almost negligible quantity. Remembering, however, the uncertainty of what is called the "disinfection of the infected" by quinine, we can only hope for the best.

[1] *Reports and Papers on Malaria Contracted in England in 1917.* His Majesty's Stationery Office. To be purchased through any bookseller. (4s. net.)

TORPEDO SHOCK.

DR. CLUNET, who was on board a steamer torpedoed on the high seas not long ago, has made a communication to the Neurological Society of Paris on the mental effects of the attack upon the victims. He distinguished four stages

The first was one of purely emotional disturbance. He was reading in the saloon, when he heard a rather feeble explosion, and felt a slight vibration as if the ship had struck something. The engines stopped, and at once the companion way was thronged by anxious people. A naval officer on the bridge, pale but cool, said: "We have been torpedoed; we are lost." The crowd in the companion way became greater but remained silent, the only sound being the wailing of some left in the body of the ship. Soon excitement showed itself in irrational acts. Some men got into the boats on the bridge without attempting to launch them; others discharged firearms in the air; others seemed to be stupefied. An officer on the deck was firing a pistol into the sea by way of controlling his fear. After a few minutes other shots were heard, which marked the outbreak of an epidemic of suicide. But among the passengers generally there were no such severe indications of psychoneurotic crisis as convulsions or paralysis; almost all remained silent, but could give clear answers to questions. A quarter of an hour later the ship sank. In the second stage the chief feature was acute suffering from the cold on the raft. At first there were some manifestations of dissatisfaction and want of discipline, but after an hour confidence was restored, and people began to pick up the preserved eatables floating in the water. During the night a soldier from Martinique, declaring that he was lost, broke out into religious lamentations which had a depressing effect on the others. The doctor ordered him to pray inwardly, and this having no effect, threatened to throw him into the sea. This scared the man into silence. The third stage occurred in the ship which rescued them. Neuropathic phenomena began to show themselves: mutism, spasmodic weeping, lamentations, sighing, grumbling, trembling, spasmodic movements of the limbs, but never convulsions. Clunet treated the patients by energetic massage combined with the administration of alcohol, and the phenomena disappeared. The fourth stage was that of return to normal life when the shipwrecked people were disembarked.

THE COLLECTION OF INSTRUMENTS AT THE COLLEGE OF SURGEONS OF ENGLAND.

We learn that Major-General Sir Robert Jones, C.B., F.R.C.S., Inspector of Military Orthopaedics, has presented to the museum of the Royal College of Surgeons of England a collection of instruments devised and used by his uncle, the late Mr. H. Owen Thomas of Liverpool. His splints, long used by surgeons who have made themselves acquainted with the principles of their construction and application, have, as is well known, become the standard appliances for the treatment of fractures, especially of the lower extremity, in the British, Canadian, and American armies. In addition to specimens of splints Sir Robert Jones's gift includes the large hypodermic syringe which Thomas carried with him for the treatment of cases of intestinal obstruction, his two-way aspirator, and a set of the double rectangular staffs and the combination knife and gorget which Thomas used in performing lithotomy after his special method. We learn also that two cases are being prepared for the display of instruments and personal effects associated with John Hunter and with Lord Lister.

Mr. Macpherson, Under Secretary of State for War, who is also vice-president of the Army Council, stated in reply to a question by Commander N. Craig in the House of Commons on Monday last that a report by Colonel Pyke and Colonel Balfour in regard to the Army Medical Service in Africa had been received. The report, which was received in May, disclosed a very serious state of affairs in regard to army medical administration. It had received immediate consideration and effective action had been taken. Mr. Macpherson declined to publish the report on the ground that it was of a personal and highly confidential nature.

THE WAR.

RECENT DEVELOPMENT IN R.A.M.C. FRONT LINE EDUCATION.

The correspondents of the daily papers have made every one familiar with the fact that in the British armies in France many schools have been established for teaching and training, especially in new methods of attack and defence, but little or nothing has been said about the educational activities of the Army Medical Service. It will therefore be interesting to give some particulars of the army medical schools of instruction in France drawn from an article which Lieut.-Colonel Guy Stephen, R.A.M.C. (T.C.), has written, the full text of which will, we understand, shortly appear in the *Journal of the Royal Army Medical Corps*.

The object of such a medical school and the way in which it does its work may best be explained by giving an account of a R.A.M.C. School of Instruction of a certain Army which has been sufficiently long established, as war time goes, to have attained a wide reputation.

The general aims of the school may be described as including the following:

1. To provide instruction in improved methods of doing the work required of the Royal Army Medical Corps in front line areas.
2. To put workers in these areas into touch with any knowledge that has been gained at bases or elsewhere, and with which it is to their interest to become conversant, either because it has a bearing on their own work or on general grounds.
3. To fill in the gaps which exist in the military education of a large proportion of existing medical officers, and to furnish them with a wider view of the general aims of military medicine than they are likely to gain by work in any single medical or military formation.
4. To break down the mental barriers which subconsciously arise between men who, although all parts of the same machine, have very different duties assigned to them.

The schools of instruction are not confined to medical officers, but include not only non-commissioned officers and men belonging to the R.A.M.C. itself or to the sister services of the Overseas Contingents, as well as officers and other ranks belonging to the American and Portuguese army, but also officers and other ranks of non-combatant units of all the forces mentioned. For officers and other ranks belonging to medical formations each course lasts ten days, and for the combatants four days.

The army medical officers and "other ranks" R.A.M.C. told off to attend these courses are drawn mainly from among regimental medical officers, and from field ambulances and sanitary sections and squads, with a smaller proportion of officers belonging to casualty clearing stations, or in charge of labour groups. The pupils from the combatant units are usually platoon officers, stretcher-bearers, and members of regimental sanitary squads, together with a few men employed or in training as regimental chiropodists.

For men belonging to sanitary sections and squads, as also for chiropodists, specialized instruction is provided, but the hours devoted to it are so arranged as to enable the men to share in the general instruction when this is of a kind likely to be useful to them. Much the same might be said, indeed, of the work of all the different classes of students, since all attend the general lectures and demonstrations.

In dealing with the combatant classes, the chief aim perhaps is to make them practically conversant with the best ways of rendering first aid and to impress on them the value of sanitation and show them how it can best be secured even in front line conditions. The special lectures for medical officers deal with the new developments in the medicine and surgery of war. The general work covers pretty nearly the whole field of first line work, and invariably deals with methods of obviating shock.

The formal day's work begins at 8.30 a.m. and ends about 4.30 p.m. Though this is not a long day, especially as time allowed for breakfast and luncheon is generous, it admits of the delivery, as a rule, of two or three lectures and of a corresponding number of practical classes or demonstrations, and leaves the students quite fresh-minded enough to discuss things amongst themselves and take part perhaps in an organized debate on some subject which,

though not forming part of the school course, has a common interest for all. It is easy to theorize about front line work, but if one wants to learn in how many different ways the same piece of work can be performed, and to determine which is really the best of them, the attendance at one of these debates is very valuable. The education provided by these debates and by the "shop talk" in general is entirely informal, but the rest of the work is accompanied by a certain amount of military ceremonial. The passage of the day is marked by bugle calls, and before the first morning lecture there is a roll call and parade, the students marching off in fours to their work. The actual beginning of each day's morning work is half an hour at "physical jerks" before breakfast and the actual beginning of each afternoon's work is another parade and about half an hour's squad and company drill.

Administrative Details.

Accommodation.

The school considers itself full when its "medical" students number 40 officers and 60 "other ranks," and its "combatant" students 10 and 130 respectively. The school buildings are empty huts belonging to the casualty clearing station in which the school does its work. The principal lecture room is a French pattern hut measuring 90 ft. by 30 ft. The principal demonstration hut was formerly a recreation room. There is also a hut used by the officers as sleeping quarters, one for non-commissioned officers, and two others for men. All ranks bring their ordinary camp kits. The arrangements for demonstrations were built by the sanitary section in whose area the school lies. The horses used are drawn from various field ambulances in the command, and are changed at the beginning of each course. For demonstrations in approved methods of field cookery the students attend a cookery school a few miles distant.

Personnel.

In the matter of housing, equipment, and upkeep the school costs nothing, since everything that it uses is either lent to it by some other formation or the British Red Cross Society, or is provided by moneys resulting from its own existence. Everybody who takes part in the tutorial or other work of the school is either on temporary loan from another unit or is voluntarily performing school work in addition to other duties. Subject to this consideration, the teaching staff may be said to consist of a commandant, an adjutant, an instructor, a quarter-master, three warrant officers, five sergeants, and a number of visiting lecturers. In addition, there are two cooks, one corporal, one bugler, and about thirty privates.

The commandant is also commanding officer of the casualty clearing station in which the school does its work. The adjutant is on loan from a field ambulance, and the instructor is a surgical specialist lent by one of the less active casualty clearing stations not far away. Of the visiting lecturers, some take part in the work of every course and others help only at one course or deliver merely a single lecture. Of the former, the principal are the D.M.S. of the Army, its consulting physician and consulting surgeon, an officer in charge of one of the mobile laboratories, and the officer in sanitary charge of the area in which the school is situated. The other visiting lecturers are drawn from any source in or out of the army that is available. Men distinguished in some particular line and likely to be interesting are invited.

Subjects Taught.

The tuition afforded by the school is not quite identical at each course. The field work is always the same, but it has not hitherto been found practicable to give all of it the same amount of attention at each course, partly because the school has to depend a good deal on chance assistance, partly because, except in regard to a few subjects, it has not yet been decided exactly what knowledge should and can be secured by every pupil in the very limited time at disposal. Many of the lectures and demonstrations, though differently entitled at different courses, really cover much the same ground; and judging from the time-tables of a number of courses, the authorities would generally seem to aim at securing in each course three or four lectures on surgical and medical subjects, half a dozen on questions of administration and organization, two on horse-mastership, and one or two on military law.

The subjects invariably taught are the application of the Thomas splint, with special reference to the prevention of shock, the application of the rifle splint, the arrest of haemorrhage, the use of the triangular bandage, and the construction and use of field sanitary appliances. In addition all ranks take part in physical exercises and ordinary drill, and all medical officers have riding lessons, and attend demonstrations of useful ways of varying the use of the foodstuffs issued as rations. These subjects are mainly dealt with by practical classes.

The Thomas Splint.

In regard to the Thomas splint course, the surgical view underlying this teaching is now universally accepted in France. Immobilization of parts before evacuation from an advanced dressing station, or even a regimental aid post, should be secured in all cases of fracture of the femur, in extensive flesh wounds of the thigh, in injuries to the knee-joint, and in severe fractures in the upper part of the tibia; the Thomas splint is the best to use, except when a fracture of the femur is complicated by an unusually extensive wound in the buttock or upper part of the thigh of such a kind as to interfere with the fitting of the ring. The method of application taught secures attention to the value of warmth and absence of pain in the prevention of shock, and does not involve the removal of either clothes or boots or exposure of the wound until complete immobilization is achieved. It also assumes that the operator will have not more than two assistants, possible only one.

The principle on which it is taught is that in applying the Thomas splint in the circumstances of an advanced dressing station no thought should be necessary but every movement automatic. To secure this result the whole process has been worked out in the form of a definite drill in which the various groups of movement are indicated by numbers. It must suffice here to say that it covers everything, from the initial warming of the patient by blankets and a primus stove (movement 1) to fixing the splint to a suspension bar on the stretcher and placing hot bottles and blankets in position for the journey (movements 11 and 12).

The value of this drill is sufficiently indicated by two facts: a man who knows it well can carry it out with entire efficiency in the dark; and in the competition with which the teaching of this subject always ends, teams of "other ranks" often beat teams of officers in perfection of detail and speed of completion. The former do exactly what they have been told to do and the latter use their "judgement," which may or may not be good. A first class team can put up a limb perfectly in two minutes forty-five seconds, and an average team in about four minutes.

Other Training.

The teaching of the use of the rifle splint and the triangular bandage is of an equally practical kind, and all classes of student take part in it. All classes receive instruction in sanitation, the number of sessions and the character of the teaching varying with their assumed initial knowledge. The appliances used for teaching purposes are models of those which have best stood the test of long experience. For the most part they have been evolved during the present campaign. They include methods of protecting food from contamination, disposing of excreta in different circumstances, and the destruction of parasites in clothing and equipment.

The drill and physical exercises absorb about one and a half hours each day. At the drills the medical officer students are encouraged but not obliged to take command of sections or the whole parade. This is very useful, because some of them have had no previous experience, and many are rusty. A medical officer in charge of a party of stretcher-bearers or other group of men ought not to be dependent on his sergeant when he wishes to halt them, alter their direction, or move them out of the way of a passing lorry or a gun when marching along a road.

Concluding Observations.

Opinion in France as to the value of the school is perhaps best represented by saying that several other armies are duplicating it in their own areas.

Even should this army school of instruction shortly close its doors and never be duplicated, its existence will have been thoroughly justified: about 400 officers and 1,500 N.C.O.'s and men have passed through the curriculum, and it has been shown how much can be done without either an elaborate establishment or an expensive equipment; it has provided many dozens of men with knowledge entirely new to them, and in others has crystallized knowledge which previously was vague; in all, it has stimulated attention to a subject of the highest importance in front line work—namely, the preventive treatment of shock.

In conclusion, it may be said that a school of this order depends for its success little on its situation and not very much on the character of its visiting lecturers, but to an infinite extent on that of the resident staff. They must be men quite free from the schoolmaster spirit, but who are thoroughly conversant with their subjects.

In particular, the commandant should be a man of wide sympathies, whose knowledge of front line work is so complete that he can understand the point of view of all the different classes of pupils, and to whom the various ropes of army life are so familiar that he knows exactly which at any given moment he can leave slack and which tighten in order to maintain exactly the right admixture of discipline and ease. For one factor in a school of this order is that a course at it should be regarded as a privilege and a pleasant break in front line life.

CASUALTIES IN THE MEDICAL SERVICES.

ROYAL NAVY.

Wounded.

Surgeon Probationer A. A. Osman, R.N.V.R.

ARMY.

Killed in Action.

Captain J. C. T. Teggart, R.A.M.C.(temp.).

Captain John Cameron Thompson Teggart, R.A.M.C. (temporary), was killed in action on July 21st. He was the son of Mr. Hamilton Teggart, of Glasgow, and was educated at the university in that city, where he graduated M.B. and Ch.B. in 1912, subsequently holding the posts of house-surgeon and house-physician at the Western Infirmary, Glasgow. His twin brother Lieutenant F. W. S. Teggart, Argyll and Sutherland Highlanders has been missing since October, 1917, and is now presumed killed.

Captain R. Jacobs, R.A.M.C.(T.F.).

Died on Service.

Major H. Betham Robinson, M.S., R.A.M.C.(T.), (obituary notice published at p. 148).

Captain J. W. Beattie, R.A.M.C.

Captain James Walker Beattie, R.A.M.C.(temporary), died suddenly at Southampton on July 22nd. He was the son of the late Alexander Beattie, of Drumblade, Aberdeenshire, and was educated at Aberdeen University, where he graduated M.B. and C.M. in 1878, and M.D. in 1889. Before the war he was in practice at Sunderland, where he was school medical officer, and honorary surgeon to the Sunderland Volunteer Life Brigade. At the time of his death he was in command of troops on the hospital ship *Aberdonian*, having previously held the same post on the *Warilda* and the *Asturias*.

Captain A. B. Foott, R.A.M.C.(S.R.).

Captain Alexander Boyd Foott, R.A.M.C.(S.R.), was reported as having died on service, in the casualty list published on August 3rd. He was educated at Queen's College, Cork, and took the diplomas of L.R.C.P.I. and L.R.C.S.I. in 1914, afterwards acting as house-surgeon of the Cork Eye, Ear, and Throat Hospital. He took a commission as lieutenant in the R.A.M.C. Special Reserve on September 3rd, 1914, and was promoted to captain after a year's service.

Wounded.

Lieut.-Colonel W. C. Croly, D.S.O., R.A.M.C.
Major G. B. Holroyde, R.A.M.C. (temporary).
Captain J. C. P. Bayley, R.A.M.C. (temporary).
Captain W. Hale, M.C., R.A.M.C. (temporary).
Captain W. St. C. McClure, R.A.M.C. (temporary).
Captain F. W. Schofield, R.A.M.C. (T.F.).
Captain R. L. Williams, D.S.O., M.C., R.A.M.C. (temporary).

Missing.

Lieut.-Colonel A. C. H. Gray, R.A.M.C.
Major E. J. Tilbury, R.A.M.C.
Major A. M. Wood, R.A.M.C. (temporary).
Captain M. Donaldson, R.A.M.C. (temporary).
Captain G. J. Jones, R.A.M.C. (temporary).
Captain and Quartermaster J. D. Genese, R.A.M.C.
Lieutenant J. R. M. McGregor, R.A.M.C. (temporary).

Deaths of Sons of Medical Men.

Chisholm, John O., Lieutenant, only son of Dr. J. O. Chisholm of Glasgow, died of wounds, July 23rd.

[We shall be indebted to relatives of those who are killed in action or die in the war for information which will enable us to make these notes as complete and accurate as possible.]

HONOURS.

A special Supplement to the *London Gazette*, dated July 26th, contains long lists of awards in recognition of "gallantry and devotion to duty in the field." The list includes the following medical officers who receive the honours indicated:

(*Continued from page 121.*)

D.S.O.

Major Archibald John Collins, M.C., A.A.M.C.

When in charge of the evacuation of wounded during intense fighting, and although the advanced dressing station in which he was located was subjected to heavy enemy artillery fire, he, by his splendid energy, coolness, and courage, was enabled to evacuate safely several hundred casualties. His magnificent example inspired all who came in contact with him, and stimulated junior officers and exhausted stretcher-bearers to further efforts.

Temporary Captain (acting Lieut.-Colonel) Kenneth William Mackenzie, M.C., R.A.M.C. (late Captain I.M.S.).

When in charge of the forward evacuation he kept in touch with the retiring infantry, continually searching for and collecting the wounded. It was largely due to his great energy, skill, and foresight that so many of our casualties were so successfully evacuated.

Captain (acting Lieut.-Colonel) Arthur Thomas Pitts, R.A.M.C. (S.R.).

He established a dressing station in a very forward and exposed position. During two days and two nights he remained under continuous and terrific shell fire, dressing wounded and evacuating them. His courage and endurance under most trying conditions saved many valuable lives.

Captain (acting Lieut.-Colonel) Leopold Thomas Poole, M.C., R.A.M.C.

Hearing during a hostile attack that a large number of wounded were uncollected, owing to normal communications having been cut by the attack, he proceeded at once to the area, which was subjected to a sustained bombardment, and organized stretcher parties, sending up all his available cars. It was owing to his fine courage and promptitude that upwards of 300 casualties were not left unattended.

Temporary Captain Frederick Naylor Stewart, M.C., R.A.M.C.

He collected and dressed cases under the most intense shell fire, and on two occasions, by remaining behind after the order to withdraw had been given, succeeded in evacuating all the stretcher cases. He set a high example of courage and self-sacrifice. He was wounded in the face and thigh.

Temporary Captain James Lennox Stewart, M.C., R.A.M.C.

Although his aid post was in the open, a few yards behind the front line, he remained there, caring for the wounded, and through his efforts they were all dressed and evacuated. He was the only medical officer of the brigade left.

Captain (acting Lieut.-Colonel) Charles Herbert Stringer, R.A.M.C.

When in charge of an advanced dressing station owing to the whole force retiring, the collection and evacuation of large numbers of wounded, who were lying in thick woods, was a task of extreme difficulty in view of the rapid advance of the enemy. Although subjected to heavy fire, he remained behind till the enemy were almost up to his position, and by skilful organization he succeeded in evacuating practically all the wounded. His magnificent courage and devotion saved many wounded from falling into the enemy's hands.

Captain (acting Lieut.-Colonel) Joseph Hugh Ward, M.C., R.A.M.C.(S.R.).

For conspicuous gallantry and devotion to duty while in command of a cavalry field ambulance. During two days of intense fighting, in spite of the enforced moves of his unit, he continued to help an advanced dressing station, open until the last possible moment to deal with large numbers of wounded, only retiring when all had been evacuated, and when ordered to do so. Throughout this period he showed an example of pluck and determination beyond all praise.

Temporary Captain Roger Llewellyn Williams, M.C., R.A.M.C.

During operations, he, together with the C.O. and Adjutant, were the last to withdraw. Shortly after the C.O. was severely wounded, but, with the assistance of another officer, he carried him away for

over half a mile under intense machine-gun and rifle fire at close range. Afterwards he continued to dress the wounded, including the Adjutant, under the most intense fire, and throughout the withdrawal he showed the utmost energy and devotion to duty.

Temporary Captain (acting Major) Herbert George Willis, M.C., R.A.M.C.

When in command of a bearer division of the field ambulance throughout ten days' fighting he kept all in order by visiting the regimental advanced posts and ambulance relay posts, and when the trolley line was destroyed by shell fire he reorganized the system of evacuation, going round the posts and making the necessary arrangements at great personal risk. By his action he ensured the clearance of the wounded.

Second Bar to the Military Cross.

Temporary Captain (acting Major) Charles Bromley Davies, M.C., R.A.M.C.

While in charge of an advanced dressing station, his energy throughout whilst supervising the collection of the wounded was remarkable; it was due to him that the collection and evacuation of the wounded was so quickly and thoroughly carried out. Though slightly wounded, he remained at duty for another eight days, when he was severely wounded. His courage and energy were of a very high order. (M C. gazetted August 25th, 1916. Bar to M C. gazetted July 18th, 1917.)

Temporary Captain James Wallace MacFarlane, M.C., R.A.M.C.

In going under heavy shell fire to the assistance of a wounded man who was lying in the shelled area, dressing his wounds, and getting him safely to cover. He without doubt saved the man's life. (M.C. gazetted July 25th, 1917. First bar gazetted February 4th, 1918.)

Bar to the Military Cross.

Temporary Captain Phillippe Bernard Belanger, M.C., R.A.M.C.

When the enemy had penetrated the defences on the left of his battalion in support, and were outflanking battalion head quarters, he went across 300 yards of ground swept by severe machine-gun and rifle fire, to assist a wounded officer, and had him carried into safety. He displayed great courage and self-sacrifice throughout operations. (M.C. gazetted October 18th, 1917.)

Captain (acting Major) Henry Bryan Frost Dixon, M.C., R.A.M.C.

This officer remained behind in "No Man's Land" and dressed three officers under extremely heavy machine-gun fire, and helped to carry a wounded man more than two miles to a place of safety. Later he continued to dress all wounded, although practically surrounded by the enemy. His cheerfulness and disregard of personal danger under these exceptionally trying circumstances inspired all ranks. (M.C. gazetted November 14th, 1916.)

Captain Walter Elliot Elliot, M.C., R.A.M.C.(S.R.).

He established a regimental aid post, and for twelve hours, assisted by two officers, and in spite of continuous shelling, attended to over 250 wounded, and succeeded in evacuating all to the dressing station. It was due to his personal courage and example that this was successfully carried out. (M.C. gazetted June 18th, 1917.)

Captain (temporary Major) James Douglas Fiddes, M.C., R.A.M.C.

In charge of an advanced field dressing station which was heavily shelled, he successfully evacuated all the wounded to a safer place. He also went up to the front when the officer in charge there was exhausted and gassed, and superintended the evacuation of all the wounded. (M.C. gazetted February 4th, 1918.)

Temporary Captain James Phillips Jones, M.C., R.A.M.C.

He was in charge of an advanced dressing station, and when the village had been temporarily evacuated he was entirely responsible for the getting away safely of many of the wounded. Throughout the ten days of the battle he displayed the most conspicuous ability, cool courage, and devotion to duty. (M.C. gazetted February 4th, 1918.)

Temporary Captain Ronald Sinclaire Kennedy, M.C., R.A.M.C.

When in charge of advanced bearers he collected and led forward reinforcing bearer squads in a most gallant manner through a heavy barrage and through lines of retiring infantry, until he gained touch with the regimental aid post. He cleared many wounded who would otherwise have been left to the enemy. A splendid example of persevering gallantry and fearlessness. (M.C. gazetted September 25th, 1917.)

Temporary Captain (acting Major) John Samuel Levis, M.C., R.A.M.C.

When in charge of stretcher-bearers at the advanced dressing station his courage and example in leading squads over heavily shelled ground were the means of saving many lives. When ordered to evacuate, he displayed great ingenuity and resource in saving his personnel and equipment. Throughout the operations he has rendered most valuable services. (M.C. gazetted January 25th, 1917.)

Temporary Captain James Manuel, M.C., R.A.M.C.

Whilst battalion medical officer and during a withdrawal he frequently dropped back unaccompanied by medical staff and under very heavy fire attended to casualties. His conduct throughout the operations was of a high order. (M.C. gazetted February 4th, 1918.)

Temporary Captain John Hay Moir, M.C., R.A.M.C.

During a withdrawal he repeatedly went out into the open, under heavy fire, to attend the wounded. Throughout the withdrawal seven officers of the battalion were wounded. That only one was left in the hands of the enemy was largely due to the magnificent courage which he displayed. (M.C. gazetted November 14th, 1916.)

Temporary Captain George Rankine, M.C., R.A.M.C.

During a withdrawal he superintended the evacuation of wounded without rest and at great personal risk, notably when the left flank became exposed, and he led the bearers with great courage near the railway embankment and evacuated all the wounded under heavy artillery and machine-gun fire. (M.C. gazetted November 4th, 1915.)

Temporary Captain Charles Roche, M.C., R.A.M.C.

In evacuating wounded from the front line to the advanced dressing station, four out of five collecting posts occupied by him were heavily shelled, but he continued to work incessantly, and evacuated a large number of wounded. (M.C. gazetted October 20th, 1916.)

Captain Thomas Victor Somerville, M.C., R.A.M.C.

When his battalion was about to withdraw and the wounded could not be brought to his aid post in time, he went up to the firing line and stayed there attending to the wounded till all the troops had withdrawn. His gallant conduct saved many lives. (M.C. gazetted January 14th, 1916.)

Captain (acting Major) John Stephenson, M.C., R.A.M.C.(S.R.).

In continuing to dress cases in the open under heavy shell fire. When the advanced dressing station was heavily gas-shelled and several casualties caused he saved many of the patients and staff from being gassed by his example and coolness. On one occasion he went through a heavy barrage to the regimental aid post and by his coolness and judgement all ranks were encouraged to persevere in clearing the wounded. (M.C. gazetted September 26th, 1917.)

Temporary Captain Charles Gordon Timms, M.C., R.A.M.C.

During recent operations he continued to collect and evacuate wounded from his post, though several times nearly surrounded by the enemy and under heavy shell fire. By his fine courage and self-sacrifice he was able to get away a large number of wounded under most difficult conditions. (M.C. gazetted July 18th, 1917.)

Temporary Captain John Wilfred Watthews, M.C., R.A.M.C.

During the evacuation of a line he displayed the utmost courage and coolness in evacuating wounded under very heavy shell fire, and it was entirely owing to his energy and personal example that the whole of the wounded were got away in safety. Later, having lost the whole of his medical outfit, he rendered invaluable assistance in rallying the men in his vicinity. (M.C. gazetted November 25th, 1917.)

(To be continued.)

EAST AFRICA CAMPAIGN.

A Supplement to the *London Gazette* (August 6th) contains a list of names brought to the notice of the Secretary of State for War by Lieutenant-General Sir J. L. van Deventer, K.C.B., Commanding-in-Chief, British Forces, East Africa, for distinguished services during the operations from May 30th to December, 1917. The following members of the medical profession are included in the list:

Staff.—Lieut.-Colonels (temporary Colonel) W. W. Clemesha, I.M.S., (acting Colonel) F. E. Gunter, D.S.O., R.A.M.C. Captains R. L. Impey, M.C., R.A.M.C.(S.R.), G. G. Jolly, I.M.S. Temporary Captain C. P. Bligh-Wall, S.A.M.C.

Royal Army Medical Corps.—Lieut.-Colonel R. H. Humphrey. Major G. J. Keane, D.S.O. Captains W. Fraser, J. O. Garland, A. Hendry, H. F. Holmden, W. Mitchell, E. A. Sutton, M.C., G. A. Williams. Temporary Captains C. R. Howard, A. R. Lindsay, L. R. P. Marshall, J. Miller, M. T. Morgan, M.C., A. Moxon, W. A. Ryan, W. B. Walker. Temporary Lieutenants J. I. Greig, R. Semple.

Royal Army Medical Corps (S.R.).—Lieut.-Colonel J. McKie, D.S.O., Captains H. S. A. Alexander, S. J. V. Furlong, W. A. McLennan, G. M. Roberts, A. R. Ross, Lieutenants J. F. C. Braine, R. Lloyd-Jones, F. C. Logan.

Indian Medical Service.—Majors J. Husband, P. L. O'Neill, Captains F. W. Hay (attached Infantry), T. A. Hughes, H. M. Inman, M. L. C. Irvine, W. M. Lupton.

Indian Subordinate Medical Department.—Assistant Surgeons A. Bayley-de-Castro, (honorary Lieutenant) J. A. F. Harvey, E. D. Shave, Sub-Assistant Surgeons Singh Bhag, Jethabhai Desai Gordhandas, Ramchandra Upalekar Govind, Singh Hari, Ram-Chandra Kalamkar Kashi-Nath, Khan Mihrab, Kusain Muhammad, Riazuddin Muhammad, Ram Mukand, Lal Nand, Muhammad Nur, Nath Shambu, Varyam Singh.

South African Medical Corps.—Lieut.-Colonel R. L. Girdwood, D.S.O., Majors (temporary Lieut-Colonels) W. V. Field, W. Gilbert, Majors C. M. Brothers, T. J. W. A. Johnston, A. Liebaert, A. D. McKenzie, Captains A. J. Ballantyne, H. J. Brady, R. D. A. Douglas, S. J. O'L. Greensill, D. Henderson, J. E. Hurworth, S. MacPherson, H. V. Potter, W. Shanks.

East African Medical Service.—Major C. A. Wiggins (Uganda Medical Service), Captain D. G. Tomblings (African Native Medical Corps), temporary Captain N. P. Jewell, M.C., Lieutenant R. McGeorge.

West African Medical Service.—Captain R. F. Williams, M.C., attached Gold Coast Regiment.

Miscellaneous Medical Services.—Captain J. A. Chisholm (Northern Rhodesia Medical Service), Captain and temporary Surgeon E. G. Storrs, M.C. (Northern Rhodesia Medical Service), temporary Captains B. J. Courtney (West African Medical Service), A. G. Eldred (Nyasaland Field Force Medical Service), A. H. Owen (Uganda Medical Service), W. C. Wigan (Nyasaland Field Force Medical Service).

The list also contains the names of a number of warrant and non-commissioned officers and men of the R.A.M.C. and of the Colonial medical services as well as members of the nursing services.

MILITARY HONOURS TO NURSES.

The Military Medal for distinguished service in the field has been conferred upon a number of members of the nursing profession, including three members of the Q.A.I.M.N.S., six of the Q.A.I.M.N.S.(R.), one of the T.F.N.S., one matron, one assistant matron, four sisters and one nurse of the St. John Ambulance Brigade Hospital, as well as upon eight members of the B.R.C.S. The Croix de Guerre of the French Republic has been awarded to Miss Annie Mackinnon in recognition of the services of the unit of the corps to which she is attached close behind the French front, and six members of the unit have been mentioned in French dispatches.

Correspondence.

SIGNIFICANCE OF FATS IN THE DIET.

SIR,—The figures quoted by Professor Starling illustrate the lack of reliable data regarding the food requirements of children from the laboratory standpoint. This emphasizes the necessity of relying largely, as Professor Starling does, on the statistical method—that is, by a study of the proportion of fat to the whole diet taken under known conditions. In this connexion I may refer to the results of an analysis of the daily dietaries of eight apparently healthy children in medical families—the analysis being made from cooked foods—which I carried out many years ago; the ages of the children ranged from 4 to 6 years. The average results were:

Protein	71 grams
Fat	67 ,,
Carbohydrates...	198 ,,

Giving a total of 1,725 calories.

The percentage of protein is appreciably higher than that ordinarily recommended in standard textbooks. (In children the source of protein is probably of greater importance than the actual amount.) The fat percentage works out at 34 per cent. of the total energy of the diet, a figure which is remarkably close to the figure, 35 per cent. of food as purchased, founded on by Professor Starling and adopted by the Inter-Allied Scientific Food Commission.

Professor Starling's paper is a most timely contribution to our knowledge of this subject; there are, however, many clinicians who will find difficulty in agreeing with one conclusion—that the percentage of fat in adult dietary can be considerably augmented above the figures recommended by him without interfering with efficiency or with health.—I am, etc.,

Edinburgh, Aug. 3rd. CHALMERS WATSON, M.D.

TREATMENT IN THE TOXAEMIAS OF PREGNANCY.

SIR,—In the JOURNAL of August 3rd (p. 108) is an interesting paper on "Treatment in the toxaemias of pregnancy," in which Dr. Gilbert Strachan has done me the honour of quoting a paper published by me in 1910, in which I described a successful case of Caesarean section for eclampsia gravidarum performed in April, 1908—the first successful case recorded in this country. My object in writing that paper was to urge a reconsideration of the question of rapid delivery in eclampsia gravidarum. Since then the view that rapid delivery is indicated in many cases has gradually been gaining ground, and Dr. Strachan's communication adds additional support to that view.

But with his condemnation of Caesarean section I cannot agree. It is true that the mortality of Caesarean section culled from the literature was about 50 per cent. Now, however, it is being rapidly reduced, and is thus following the same course as Caesarean section for pelvic contraction.

The modern Caesarean operation has been successful not only because of improvements in operative technique, but because the indications for the operation have been more clearly defined and acted upon without delay and before the patient has become infected through futile attempts to deliver.

If Caesarean section is to have a place in the treatment of eclampsia we must be able to say, "This is a case for Caesarean section," and have the courage to act promptly, for to delay until the patient is moribund and all treatment has been a failure is to court disaster.

The indications I have given for this operation are as follows:

1. When the fits are severe and recur in rapid succession.
2. When labour has not commenced.
3. When the cervix is difficult to dilate from elongation, hypertrophy, or excessive rigidity.
4. When the mother is moribund and the fetus living and viable.
5. When labour has commenced, and there is found considerable disproportion between the size of the child and that of the pelvis.
6. When the surroundings of the patient are suitable for a major surgical operation, and when the services of an operator skilled in pelvic surgery can be obtained.

The aim of the operation is to save both mother and child, and as in severe cases the child has been found dead when extracted, the operation is done solely to save the mother's life.

Dr. Strachan suggests an alternative—"to make two or three incisions into the cervix as Duhrssen advises." The objection to this method is that the child must still be delivered by forceps or version which may be attended with difficulty, producing under any circumstances considerable disturbance to the patient with consequent increase of the convulsions. Further, such incisions, however carefully stitched, may become infected, causing trouble both immediate and remote. No information is available concerning the future obstetrical history of women so treated, as to how the cervical scars behave during parturition.

Abdominal Caesarean section is the most rapid method of delivery, and in the hands of an expert the mortality of the operation *per se* should be very low. This must be remembered before ascribing a death to the operation, for in the majority of the cases the death of the patient is due to the disease and not to the operation.

I may add that my patient has had two subsequent confinements without difficulty and is now the happy mother of two charming children.—I am, etc.,

London, W., Aug. 3rd. F. J. MCCANN.

THE FUTURE OF THE PROFESSION.

SIR,—I am glad to see that you support Dr. Rice-Oxley's plea in last week's JOURNAL for the better representation of the profession on those public bodies which are responsible for the making and the administration of the laws affecting the health of the community—a matter of great importance in view of the movement for a Ministry of Health, which has been brought appreciably nearer realization by the practical and logical address of Sir Bertrand Dawson.

The bodies chiefly concerned are Parliament and the borough and county councils. My object in writing is not to discuss our representation in the former body, which, important as it is, can only be carried out by a few medical men, and those seldom men in active practice. With local councils, however, the case is different: the ties and distractions of party can here be largely disregarded, the work of an ordinary member can be carried out efficiently without such a demand on his time as to prevent him carrying on his practice as a medical man.

It would surely be possible in the area of every such a council to find at least one medical man who could serve on it, and he would no doubt be welcomed and have much influence in the deliberations of the assembly if he would join as a public man having special knowledge of the conditions affecting the health of the people and of the proper value of preventive and remedial legislation and administration. At present, when in council, these bodies are entirely dependent for information and advice on medical matters on their medical officers, who are alone and unsupported; it is only natural that these officers should look on such matters from the preventive point of view, and with the best will in the world, which I believe most medical officers of health have, they can hardly be expected to have the same outlook as men in the actual practice of curative medicine. The one should be, and I have no doubt would be, the complement of the other. It is important that our representatives on these bodies should be men in actual practice, or at least in close touch with men in practice. Too often medical members of councils have failed to be as effective as they might be from our point of view because they have too long or too completely retired from practice.

It would, of course, be a mistake to act as aggressive trade unionists. If they did their advice would be looked on as tainted and so lose most of its intended effect. But at the same time we shall expect our representatives to hold a watching brief for their fellow practitioners and our ideals of medicine.—I am, etc.,

Bradford-on-Avon, Aug. 4th. CHAS. E. S. FLEMMING.

THE BURDEN OF COSTLY REMEDIES.

SIR,—I consider the strictures passed by Mr. Smith Whitaker in his decision quite unnecessary.

In 1913 I applied to the Kent Committee for vaccines,

and was informed, after communication with the Commissioners, that vaccines were not to be supplied to panel patients. Payment in Kent was *pro rata*. I do not dispense for the panel.

In October, 1917, I told a patient he could not get vaccines on the panel, but advised him to apply direct to his club (Foresters), giving him a letter fully stating his case. Again a direct refusal was received.

Comment is needless.—I am, etc.,

Windlesham, July 31st. G. BAYNTON FORGE.

BROKEN SLEEP.

SIR,—Dr. Guthrie Rankin, in his paper on this subject (July 27th, p. 77), says, *inter alia*: "Electricity is said to be sometimes useful as a sedative agent, but its effects are uncertain, and may prove to be exciting rather than soothing." From considerable personal experience I have no hesitation in saying that the reverse is the case. Before mobilization, nearly four years ago, I treated in Glasgow during the previous fourteen years numerous cases of insomnia *per se* by means of high-frequency currents with scarcely a failure, and, when sleeplessness formed one of a group of symptoms in cases of neurasthenia, the good influence of these currents was most marked in restoring sleep.

The sleep produced differs materially from that obtained from drugs. It is a refreshing sleep; digestion is not upset, nor is an evil habit acquired. I have never seen any "exciting effects" from the application of high-frequency current, and these should never occur if the treatment is in skilled and qualified hands.—I am, etc.,

W. F. SOMERVILLE,
Lieut.-Colonel R.A.M.C.(T.).

1st Eastern General Hospital, Cambridge, July 29th.

THE TRAVELLING MEDICAL BOARD.

SIR,—Called up on July 27th for examination and told to be punctual, I presented myself at the time fixed. Very little foresight was shown in the arrangements, and a good deal of valuable time was lost. My complaint, however, is that, stripped stark naked, I was fully exposed to the gaze of a clerk of perhaps sixteen years of age. To this I strongly object, as do others. An extra screen would have saved what I regard as an indignity to a man of my years. I hope that by this protest others may be spared what I regard as an unnecessary and degrading exposure.—I am, etc.,

G. P. NEWBOLT, F.R.C.S.Eng.,
Senior Surgeon, Royal Southern Hospital, Liverpool.

August 3rd.

CENTRAL MIDWIVES BOARD.

Relations of Medical Practitioners and Midwives.

AT the monthly meeting held on July 25th, when Sir Francis Champneys was in the chair, a letter was considered from the Medical Officer of Health for the county of Durham, asking:

(*a*) Whether any objection can be raised to a registered medical practitioner employing a certified midwife to attend his midwifery cases, the midwife being paid a fixed salary for her attendance, including the collecting the fees due to her employer and paying them over to him.

(*b*) Whether, in such a case, the midwife is bound to continue her attendance on the patient for ten days after the confinement†, or can she hand over the conduct of the case during the lying-in period to her employer.

(*c*) What action should be taken by a county council desirous of appointing a subsidized midwife in a district not adequately provided with trained midwives, where the local medical practitioners object to her appointment unless they receive a guarantee for the payment by the county council of their fees when called in on the advice of the midwife, whether the patient can afford to pay the fee or not.

It was decided to reply as follows:

(*a*) That there is no objection to such an arrangement.

(*b*) That under the circumstances specified the midwife is bound to attend for the period of ten days after the labour.

(*c*) That as the county council subsidizes the midwife, it ought to hold itself responsible for the payment of the doctor when required.

Reciprocity with Scotland.

On the motion of the Chairman the following resolutions were unanimously adopted, to come into effect if and when Clause 10 of the Midwives Bill, 1918, became law:

(*a*) That having regard to the equivalent value of the standards of training and examination required by the Central Midwives Board for Scotland and by this board, it be an instruction to the secretary to admit to the Roll of Midwives, subject to compliance with the terms and conditions of Section 10 of the Midwives Act, 1918, any woman holding the certificate of the Central Midwives Board for Scotland in virtue of having passed the examination of that body, and to report his action to the board.

(*b*) That in the case of a woman applying to be certified under Section 10 of the Midwives Act, 1918, by reason of any qualification other than that of holding the certificate of the Central Midwives Board for Scotland in virtue of having passed the examination of that body, the secretary do report thereon for such action to be taken as the board may deem expedient.

Universities and Colleges.

UNIVERSITY OF LONDON.

AT a meeting of the Senate on July 31st a resolution was adopted expressing the gratification with which it had learnt of the proposals made by the authorities of University College Hospital for co-operation with other hospitals and for the admission of women to their medical school as from October 1st next.

Examiners.—The following were reappointed to act as examiners for the second examination for medical degrees: Part II, for internal and external students in the session 1918–19—Anatomy: Professor J. E. S. Frazer (St. Mary's Hospital Medical School), together with the external examiner, Professor R. W. Reid (Chairman). Pharmacology: Dr. E. Mellanby (King's College for Women), Chairman, together with the external examiner, Dr. H. J. Campbell. Physiology: Dr. J. Mellanby (St. Thomas's Hospital Medical School), together with the external examiner, Professor D. N. Paton (Chairman).

The following were appointed to act as additional examiners (Part II, for internal and external students) at any examination held in the session 1918–19 at which the number of candidates exceeds seventy. Anatomy: Professor T. W. Jones (London School of Medicine for Women), together with the additional external examiner (Mr. A. Macphail). Pharmacology: Mr. P. P. Laidlaw (Guy's Hospital Medical School), together with the additional external examiner (Dr. F. Ransom). Physiology: Dr. F. A. Bainbridge (St. Bartholomew's Hospital Medical School), together with the additional external examiner (Professor E. H. Starling).

Chairmen of Committees.—The following chairmen of committees of the Senate have been elected for 1918–19:—Council for External Students: Dr. S. Russell Wells. Committee of Medical Members; Sir Alfred Pearce Gould, K.C.V.O., M.S.

Parliamentary Register.—Any graduate who is not at present on the register of parliamentary electors for the University, and who desires to be placed thereon, is required to make a claim and to pay a fee of £1. Application for the form of claim should be marked "Parliamentary Register," and addressed to the Vice-Chancellor at the University.

CONJOINT BOARD IN ENGLAND.

THE diplomas of L.R.C.P. and M.R.C.S. have been conferred upon the following candidates who have passed the final examination in medicine, surgery, and midwifery of the Conjoint Examining Board:

A. Abelson, J. F. Adams, Kaiku Ardeshir Anklesaria, B. F. W. Armitage, C. H. Backus, Annie H. Banks, *F. G. Banting, G. Blurton, M. V. Boucaud, M. C. Breese, J. D. Byrd, F. Cavers, E. A. Clegg, A. W. Cocking, Kathleen M. Cogan, T. Colley, N. C. Cooper, C. C. H. Cuff, Pares Chandra Datta, E. S. Davies, S. R. E. Davies, T. M. Davies, F. S. Drewe, C. B. Dyson, A. Eidinow, Saad El Din Ahmed El Daab, F. K. Escritt, Lucie Gainsford, Shanasar Galstaun Galstaun, E. S. Gawne, C. Gill-Carey, S. V. Goldhurst, L. Handy, F. T. Harrington, G. G. Havers, W. A. Hawes, S. N. Hayes, W. E. Heath, W. S. Herman, T. C. Higgins, C. P. Hines, J. Joffe, A. K. I. Jones, *E. Ek Dun Lau, A. S. Lawson, N. B. Little, A. W. Lloyd-Davies, G. B. Lowe, Edith M. P. Morris, K. Mullen, R. A. Olphert, *Irene G. Parsons, B. J. Perkins, G. F. Peters, Mary M. Prior, P. G. Quinton, †Constance A. Randall, C. G. J. Rayner, Frances E. Rendel, N. Rumbold, J. A. A. P. Scott, A. G. M. Severn, W. H. Simmons, B. L. Slater, V. A. T. Spong, G. S. Swan, A. D. Symons, M. S. Thomson, †Agnes E. Towers, †Elsie M. Visick, Yik Shing Wan, J. Whittingdale, V. D. Wyborn.

* Diploma of M.R.C.S. conferred on July 11th, 1918.
† Under the Medical Act, 1876.

CONJOINT BOARD IN SCOTLAND.

THE following candidates, having passed the final examination, have been admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. and S.G.:

J. K. C. Megahy, H. G. Anderson, A. I. Meek, W. H. Duff, E. J. Patchett, Mahmoud Abdel Kadar Mofrgh, G. H. T. N. Clarke, J. L. West, L. W. Nott, J. Boyd, H. Lyth, S. G. Evans, J. J. van Nickerk, A. P. M'Leod.

The Services.

SENIORITY LIST AND ESTABLISHMENT FOR TERRITORIAL MEDICAL OFFICERS.

THE following Army Council Instruction (No. 818 of 1918) was issued on July 21st:

818. *Introduction of a Seniority List and Establishment for Officers of the Army Medical Service, T.F., and R.A.M.C., T.F.*

1. Approval has been given for the Introduction of a General Seniority List, such as obtains in the Regular Service for officers of the A.M.S., T.F., and all officers of the R.A.M.C., T.F. (other than those belonging to the administrative and *à la suite* staffs of T.F. General Hospitals, and the Sanitary Service).

2. The following instructions will be observed in the transfer of officers to this list, and in regulating promotion.

(i) Officers will be shown in the seniority list according to the dates of their substantive ranks, except in the case of officers restored to the active list from the T.F. Reserve or retired list, when their seniority will be from the date of their restoration.

This exception will, however, not apply to those officers whose transfer to the Reserve, since mobilization, was at the instance of a recognized official body and for reasons other than their private interests.

(ii) Promotion up to the rank of major will be governed by para. 102, T.F. Regulations, as amended by A.Os. 45 of 1915 and 68 and 356 of 1916.

(iii) Promotion to the rank of lieutenant-colonel to complete establishment will be made by selection from majors who have qualified in such manner as may be prescribed by the Army Council.

(iv) Promotion to the rank of colonel to complete establishment will be made by selection from lieutenant-colonels.

(v) Promotions to substantive rank will be made to complete a War Establishment of 19 colonels and 107 lieutenant-colonels.

(vi) During the present embodiment of the T.F. a major or a lieutenant-colonel shall be considered qualified for promotion who has been recommended in the usual way, and whose advancement has been approved by the Army Council.

(vii) Substantive promotions to complete establishment will all bear the date of June 1st, 1916, but pay and allowances will only take effect from the date of appearance in the *London Gazette*.

3. Temporary rank will no longer be either held or given, and officers now holding such rank will, if they continue to hold their appointments, be eligible for equivalent acting rank.

91/Medical/1308 (A.M.D. 1).

Mr. Macpherson has informed the House of Commons that the promotions would take place as soon as possible after the receipt of the recommendations from the various theatres of war with which these officers were serving. Officers not selected for promotion would not be retired on that account.

EXCHANGE.

REGIMENTAL MEDICAL OFFICER, at present stationed in Northern Command, would like to exchange with M.O.—Regimental or Hospital—in Western Command. Please address No. 3050, BRITISH MEDICAL JOURNAL Office, 429, Strand, W.C.2.

Obituary.

FREDERICK T. ROBERTS, M.D., F.R.C.P.,

Emeritus Professor of Medicine and Clinical Medicine, University College, London.

WE announced briefly last week the death in his 79th year of Dr. Frederick T. Roberts at his residence in London.

Frederick T. Roberts, after a period of apprenticeship in Carmarthen beginning in 1852, in 1858 entered University College, London, as did many other brilliant young Welshman of his day. He took the degree of B.Sc. at the University of London in 1862, and that of M.B. in the following year, graduating M.D. in 1870. Soon after completing his course at University College Hospital he became physician to the Liverpool Northern Hospital, and a lecturer in the Liverpool School of Medicine. It was, we believe, his experiences at this time and during his apprenticeship which turned his attention to the study of the diseases the nature and treatment of which were afterwards to be the subject of the Address in Medicine on Infective and Infectious Diseases which he gave to the annual meeting of the British Medical Association in Swansea in 1903. He was soon called back to London to become assistant physician to University College Hospital and lecturer on materia medica in the College. After a rather long period as assistant physician he became full physician, professor of medicine, and professor of clinical medicine. On his retirement he was appointed emeritus to the two chairs. Afterwards he lived for a time at Pinner, where he had to submit to amputation of the leg. This misfortune very much limited his activities; some years ago he returned to London, where he had a host of friends.

Frederick Roberts was among the first to attempt to make adequate use of the out-patient department for the training of students. His method was very direct, by way of question and answer, but he often gave the answer himself if the class showed any hesitation. Many can look back to their attendance in his out-patient room as a very valuable part of their training. His genial manner, his evident desire to help and to draw out the best that was in a man endeared him to his students, most of whom remained his friends throughout life. He made comparatively few contributions to periodical medicine, but was diligent with his pen. He was best known as a writer by his *Handbook of the Theory and Practice of Medicine*, which reached a tenth edition in 1909. It was a wonderfully comprehensive book, admirably arranged, but rather hard reading; its special value was to the student in the period immediately preceding his examination, when the perusal of "Roberts" reduced to order and sequence the chaotic masses of information acquired by various reading and practical observation. He was assistant editor of Quain's *Dictionary of Medicine*, and contributed many articles to that famous volume. He also wrote the article on diseases of the pericardium in Allbutt's *System of Medicine*. In 1895 he delivered the Lettsomian lectures before the Medical Society of London on the combination of morbid conditions of the chest, and in 1902 the Lumleian lectures before the Royal College of Physicians on the comprehensive study of thoracic phthisis, subjects with which he had been able to make himself thoroughly acquainted as physician to the Consumption Hospital, Brompton. He became a Member of the Royal College of Physicians in 1870, and a Fellow in 1877. He was Censor in 1902-03, and 1906.

Dr. Roberts was long a member of the British Medical Association; he was secretary of the Section of Medicine in 1877 at Manchester, vice-president in 1883 at Liverpool, and president in 1894 at Bristol.

Of his social qualities and of his love for Wales, Sir Vincent Evans has been good enough to send, at our request, the following brief notes:

The late Dr. Frederick Roberts was in many ways a typical Welshman. He was bright, generous, and genial, and extremely fond of music. During many years he befriended and assisted the young musicians who came to London from Wales to undergo their training. It may be added that he was similarly generous towards the young men of his own profession who came to seek a career in the metropolis. Dr. Roberts not only appreciated music, he was himself a singer of much more than average ability. Those who had the privilege of enjoying his hospitality—and they were many—well remember the entertainment provided for them in the fine music room attached to his house in Harley Street, at which he was frequently a principal performer; at the dinners of medical societies and at the Welsh banquets which he loyally attended it was his delight to respond to the request of his friends by singing some of the quaint ballads of his native country, such as "Gogerddan," and "Mentra Gwen," and equally delightful English songs such as "Sally in Our Alley" and "Tom Bowling." The passion for music remained to the last, and one of his last "outings" was on June 22nd this year, when he was wheeled (by special permission) into a convenient corner of the nave of Westminster Abbey to hear Welsh hymns sung by a picked choir, the band of the Welsh Guards discoursing Welsh airs, and his fellow countryman and friend, Mr. Ben Davies, giving a most inspiring rendering of "Hen Wlad fy Nhadau" (The Land of My Fathers) at the Welsh National Service held for the first time in that historic fane for the benefit of the Welsh Prisoners of War Fund.

In matters of science and literature connected with Wales Dr. Frederick Roberts, as might be expected, took a very keen interest. His contributions to science was recognized by the University of Wales—somewhat belatedly, according to the custom of that institution—by the conferment upon him of the degree of Doctor of Science *honoris causâ*. For thirty years or more he was an active member of the Council of the Honourable Society of Cymmrodorion, the leading literary association connected with the Principality, and when he retired he was made one of its honorary vice-presidents, a position which he continued to occupy until his death. He was also an ardent supporter of the National Eisteddfod, and rendered

valuable services to that ancient representative institution of the Welsh nation when it visited London in 1887 and again in 1909. Of his many personal charities and private benefactions this is not the place to speak; suffice it to say that he was in such matters the type of a true-hearted, generous Welsh gentleman. In some obituary notice he was said to be a native of Carmarthen. As a matter of fact he was born in the neighbouring county, and in the town, of Cardigan. That it should have "happened" so was a fact to which he made amusing reference on more than one occasion at the county dinners of the rival shires, which in happier times were often held in London.

HENRY BETHAM ROBINSON, M.S., F.R.C.S.,

Senior Surgeon to St. Thomas's Hospital, London.

WE regret to record the death on July 31st, after some weeks' illness, of Mr. H. B. Robinson, senior surgeon of St. Thomas's Hospital.

Henry Betham Robinson was born in August, 1860. He received his school education at Dulwich College and entered St. Thomas's Hospital as a student in 1879. There he had a most brilliant career both in work and games. As a half-back in the XV he learned to play the game in a way which stood him well in his later life, and enabled him to develop that humour, kindliness, willingness, and decision which made him such a good lecturer and teacher of anatomy and surgery.

At the London University he won many distinctions, the chief being the Scholarship and Gold Medal in Medicine at the M.B. and the Gold Medal of the B.S. examinations. In 1893 he was appointed assistant surgeon on the staff of St. Thomas's Hospital. The turn of fortune gave him a long period of probation to serve before his advancement to the senior staff. This period of waiting he turned to good account. His out-patient clinic was always crowded with students bent on picking up instruction which he gave in a most attractive way. Few can have excelled him in this.

In 1892 he was elected one of the Hunterian Lecturers of the Royal College of Surgeons, choosing as his subject "Cystic diseases of the breast." The lectures are a mine of information. His later years were more occupied by teaching than publication.

In 1901 the Cheselden masonic lodge was started at St. Thomas's Hospital. Mr. Robinson soon became a member, and in masonry found an outlet for his surplus energies. He occupied the Master's chair of this lodge, when stricken with illness which was to rob the hospital of a great teacher, whose kindness and geniality went straight to the heart of the student.

Mr. Robinson took a keen interest in the work of the British Medical Association; he was a member of the council of the Metropolitan Counties Branch for twenty-five years without a break, had held the office of president, and had latterly been its treasurer. He also for some time represented the Branch on the Central Council.

Mr. Robinson leaves a widow and a son, the bright promise of whose career in his father's profession did much to sweeten the labours of the last years.

Mr. Edred Corner, to whom we owe many of the particulars here given, concludes by the following tribute to his colleague's memory:

The greater part of Mr. Robinson's work was done at this hospital, which will long mourn his loss. When the war broke out he took up work at the No. 2 General Hospital, later volunteering his services at the King George Hospital, where he worked with keen interest until he found it necessary to save all his strength for his own hospital and its military part, the No. 5 General Hospital, to which he was attached.

The war showed him to his colleagues as one willing to undertake much extra work, thus enabling others to go away, sacrificing himself—how much we now know—in its performance. Can it be wondered that so many mourn and feel his loss; or that so many paid a last tribute to his memory by attending the services held in the St. Marylebone Parish Church and the hospital chapel? At St. Thomas's Hospital Mr. Betham Robinson was surgeon to in-patients and lecturer on surgery. Outside the hospital he was consulting surgeon to the East London Hospital for Children, Shadwell, and examiner in surgery at the Universities of London and Manchester. He had also held the following appointments: Surgeon to the Shadwell Hospital for Children, and to the King George Hospital; surgeon in charge to the Throat Department, St. Thomas's Hospital; teacher of practical operative surgery; lecturer on anatomy, demonstrator of anatomy, resident assistant surgeon, surgical registrar, and many minor appointments. This all shows the amount of work which Mr. Betham Robinson has done for the school and hospital to which he belonged, and for which both are sincerely grateful.

FREDERICK EUSTACE BATTEN, M.D.CANTAB., F.R.C.P.

THE premature death on July 27th of F. E. Batten, after an operation, comes as a shock to his friends and contemporaries, and leaves a gap in the very small group of physicians who have specially devoted themselves to the two departments of nervous and children's diseases. The third son of the late John Winterbotham Batten, K.C., he was born at Plymouth in 1865, and after being educated at Westminster School entered Trinity College, Cambridge, where he was placed in the second class of the natural sciences tripos in 1887. He proceeded to the degrees of M.B., B.C., in 1891, and M.D. four years later, and in due course became a Member (1895) and a Fellow (1901) of the Royal College of Physicians. In the meanwhile he had completed his medical education at St. Bartholomew's Hospital, where he was house-physician (October, 1901, to October, 1902) to Sir William Church and subsequently casualty physician. He soon became a highly skilled pathologist and did a large amount of original investigation, especially in the laboratory of the National Hospital, Queen Square, on the histology of the nervous and muscular systems, thus laying a sure foundation for accurate clinical work. It is indeed a pity that he had at the same time to earn his living, and therefore could not devote his entire energies to research. His activities were, however, mainly given to the National Hospital and the Hospital for Sick Children, Great Ormond Street, where at the time of his death he was physician to out-patients and to in-patients respectively.

In addition to his original papers, which chiefly appeared in *Brain*, he contributed largely to systems of medicine and other publications, his special knowledge of the nervous diseases of children being much in request. In 1913 he brought out, jointly with Sir Archibald Garrod and Dr. Thursfield, the book entitled *Diseases of Children*, by various representative writers, and in 1916 he gave the Lumleian Lectures at the Royal College of Physicians on acute poliomyelitis, a subject in which he had long taken an active interest. He also wrote much on meningitis and myopathias, and, together with Drs. Risien Russell and James Collier, had in 1900 placed the peculiar features of subacute combined degeneration of the spinal cord on a firm basis. His last communication, on epidemic stupor, jointly with his friend and colleague Professor G. F. Still, appeared a few months ago.

These details might, perhaps, make it appear that Batten's outlook on medicine was mainly confined to the nervous diseases of children, but he was a general physician first and then an investigator of special problems, whose place it will be difficult to fill.

JAMES MOORHEAD, M.A., M.D.,

Surgeon-Lieut.-Colonel I.M.S. (ret.).

WE regret to record the death, on July 23rd, of Dr. James Moorhead in his 67th year. Dr. Moorhead's career as a student was very remarkable. Apart from scholarships and class prizes obtained whilst a student of Queen's College, Belfast, he won the gold medals and highest places at the university examinations for the B.A. and M.A. degrees. In the medical faculty he won whilst at Belfast the Malcolm and Charters exhibitions in medicine and surgery, and obtained the gold medal with the highest marks at the M.D. examination in the Queen's University in Ireland. He entered the Indian Medical Service in 1877, taking the first place, and, on leaving Netley, won the Martin Memorial Gold Medal and the Herbert Prize. He was civil surgeon at Simla, where he enjoyed a busy practice. On his retirement he resided for a time in Belfast, where he was lecturer in tropical medicine.

During the whole of his professional life Dr. Moorhead was a devoted member of the British Medical Association

His great knowledge of the world and of the needs of the profession impressed him deeply with the necessity of a protecting association, and nothing to him appeared so amazing as that a member resigned because of some supposed failure of the Association on some particular phase of its work, forgetful of the enormous conquests it has won for every section of the profession. As a physician he was alert, resourceful, and tender; consciousness of success in well-doing was the award he counted highest.

Dr. Moorhead was twice married. He leaves a wife, two sons, and four daughters to mourn his loss. About three years ago he removed from London to Bournemouth. His remains were interred in the Bournemouth Cemetery on July 26th.

The writer of this notice has known Dr. Moorhead for over thirty years. He deeply deplores the loss of such a friend, at once guileless, faithful, cultivated, and a very gentleman indeed.

DR. THOMAS J. DABELL of Nottingham, who died after a short illness on July 14th in his 55th year, received his medical education at St. Bartholomew's Hospital, where he gained the Treasurer's prize in anatomy. He took the diploma of M.R.C.S.Eng. in 1887, and soon after began practice in Nottingham. He served for many years on the City Council, both as elected representative and alderman. In 1904 he was made a sheriff and appointed to the Commission of the Peace. He was a member of the Nottingham Division of the British Medical Association, and in 1905 was president of the Nottingham Medico-Chirurgical Society. Dr. Dabell leaves a widow and three daughters.

Medical News.

THE Under Secretary of State for War stated that the correct designation of the medal issued to the troops engaged in the retreat from Mons is the "1914 Star."

GENERAL SIR ARTHUR SLOGGETT, K.C.B., K.C.M.G., K.C.V.O., has joined the Board of Bovril Limited.

THE KING has awarded the bronze medal for gallantry in saving life at sea to Surgeon Eric Alfred Fiddian, R.N., in recognition of services in rescuing a shipwrecked British crew in January last in the White Sea.

THE Cheshire Local Medical and Panel Committee is summoning a meeting of the medical officers of health, medical officers of child welfare centres, and members of the committees of the centres in Cheshire to hear an address by Dr. Truby King on the work of the centres. The meeting will be held at the Crewe Arms Hotel, Crewe, on Saturday, September 14th.

THE sum of nearly half a million sterling was contributed to the British Red Cross and the Order of St. John on Our Day in Canada last October. The final payment of nearly £180,000 was made on August 2nd. The total sum the joint committee has received from all sources now exceeds eleven millions sterling.

AT a meeting at the London Mansion House on August 1st, attended by numerous representatives of literature, science, and politics of the City of London and of the University of Cambridge, an influential committee was appointed to establish a Chair of French as a potent means of maintaining and increasing the intellectual sympathy between the two nations.

THE late Surgeon A. L. Pearce Gould, R.N., youngest son of Colonel Sir Alfred Pearce Gould, K.C.V.O., who was killed in action on May 19th, had by his will provided that in the event of his dying on active service £1,000 Five Per Cent. War Stock should go to His Majesty the King for the reduction of the National Debt. A number of bequests are also made to religious and philanthropic institutions.

Reveille (price 2s. 6d. net) is a new quarterly which succeeds *Recalled to Life*. It differs from its predecessor inasmuch as its editor, Mr. John Galsworthy, has enlisted the help of many writers, including Mr. Rudyard Kipling, Mr. Joseph Conrad, and Sir J. M. Barrie, to lighten its pages. But it will continue to publish many articles on the methods of alleviating the lot of disabled sailors and soldiers.

THE Joint War Committee of the British Red Cross Society and the Order of St. John has, after consultation with General Goodwin, D.G., A.M.S., established a commission for service with the Allied Forces landed in North Russia. The principal medical officer with these forces will act as British Red Cross Commissioner for the joint societies. Some of our readers may be glad to have their attention called to a paper by Dr. W. T. Grenfell of Labrador, on clothing against cold, published in the JOURNAL of January 15th, 1916.

AT the twenty-ninth meeting of the Medical Society of the Canadian Army Medical Corps, Shorncliffe, on August 12th, Colonel Adami, C.A.M.C., F.R.S. (professor of pathology McGill University), will give a lecture on the Canadian Army Medical Corps and medical progress. Sir William Osler will lecture at the following meeting in September on the future of the medical profession in Canada. Medical men not members of the society who would like to be present at either lecture should communicate with the secretary, Major A. H. Pirie, No. XI Canadian General Hospital, Shorncliffe.

IN order to prevent any delay in issuing an infant's ration book, Food Control Committees have been instructed by the Ministry of Food to issue an emergency card in cases where registration of birth is unavoidably delayed. This card will bear enough coupons to provide the infant's weekly ration during the probable interval between birth and date of registration. Such card should be exchanged for an infant's ration book as soon as the birth certificate is obtained. Application for the emergency card should be made on Form N. 30, suitably modified, and must be countersigned by the doctor or midwife in charge of the case. The form can be obtained from any local food office, and, after being duly filled in, can be presented by any one acting on behalf of the parents.

IN giving judgement in a recent case at the Tenterden County Court, in which a medical practitioner sued a patient for fees for medical attendance, the judge ruled that a medical man could not legally claim increased fees due to war conditions unless a fresh contract had been made. We believe that in many areas of the country public announcement has been made of the intention of the medical men in the district to charge increased fees in future. In some areas medical men have themselves made the announcement by way of a circular, or by a notice hung up in their surgeries. In any district where this has not been done the local Division of the British Medical Association might appropriately take the matter up and issue a notification to the public.

DURING the summer school, Cambridge, Sir William Osler on August 7th gave a sketch of the evolution of scientific medicine in the United States, illustrated by lantern slides. He divided the story into four periods. The first, British, to 1820, concerned with medicine among the early colonists, tracing the influence of Edinburgh and of John Hunter, and coming down to the New England group illustrated by Jacob Bigelow and James Jackson. The second, French, period extended from 1820 to 1860, when the influence of Laënnec and Louis was supreme; of the third, German, period extended from 1860 to 1890, the main features were specialism at the Vienna school, the teaching of Virchow and Koch, and the work of Traube in experimental medicine. The fourth period is the American, from 1890 to the present day, its chief features being the reorganization of hospitals as integral parts of the university system, and unit and team work illustrated in the clinics of Cushing, Halsted, and the Mayo brothers.

THE report of the Kashmir Medical Mission of the Church Missionary Society for 1917 gives an account of the work of the hospital at Srinagar by Dr. Ernest F. Neve and his colleagues during that year. The hospital contains 150 beds, including 40 for women, and from 10 to 20 are usually occupied by children. The following is a summary of the medical and surgical work: New out-patients, 16,158; total attendances, 38,934; in-patients, 1,719 (1,345 surgical and 374 medical). The surgical operations numbered 4,143, with 28 deaths. There were 23 deaths from medical diseases. Of 938 major operations, about 200 were on the eye, including 96 for cataract. The number of cases operated on for epithelioma was 104, almost all of the Kangri burn type. In 1917 the Durbar made a grant of 4 000 rupees, which was particularly acceptable as a mark of state recognition of the work of the hospital. In the Kashmir State Leper Asylum there were 106 patients at the beginning of 1917; during the year 110 new cases were admitted, making a total of 216 (161 men and 55 women). Sodium gynocardate is in regular use; of eight cases treated for eight months, there were signs of improvement in five. Three patients who had been in the hospital for some years under various treatment, including nastine, were pronounced to be definitely cured. The value of the work of medical missionaries in India is great. While labouring faithfully in their Master's vineyard they bring the blessings of scientific medicine to fellow-creatures peculiarly in need of such succour.

Letters, Notes, and Answers.

ORIGINAL ARTICLES and LETTERS *forwarded for publication are understood to be offered to the* BRITISH MEDICAL JOURNAL *alone unless the contrary be stated.*

IN order to avoid delay, it is particularly requested that ALL letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate with the Office, 429, Strand, W.C.2, on receipt of proof.

The postal address of the BRITISH MEDICAL ASSOCIATION and BRITISH MEDICAL JOURNAL is 429, Strand, London, W.C.2. The telegraphic addresses are:

1. EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology, Westrand, London;* telephone, 2631, Gerrard.

2. FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate, Westrand, London;* telephone, 2630, Gerrard.

3. MEDICAL SECRETARY, *Mediocre, Westrand, London;* telephone, 2634, Gerrard. The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin.

The address of the Central Medical War Committee for England and Wales is 429, Strand, London, W.C.2; that of the Reference Committee of the Royal Colleges in London is the Examination Hall, 8, Queen Square, Bloomsbury, W.C.1; and that of the Scottish Medical Service Emergency Committee is Royal College of Physicians, Edinburgh.

QUERIES AND ANSWERS.

INCOME TAX.

A. F. S. served in the army for twelve months, and during the succeeding eight months his (civilian) earnings exceeded those of previous years; he asks whether he is entitled to take advantage of the three years' average.

*** The answer would seem to depend on whether or not A. F. S. was carrying on his civil occupation and paying tax on that source of income—for example, on the proceeds of the practice less cost of maintaining a locumtenent during his military service. In that case he would be entitled to the average, but if no tax was paid or assessed during that period on his civil earnings it would seem that he is committed to the contention that those earnings had ceased, in which case the taxing authorities would be entitled to assess on a fresh average when his civil earnings recommenced.

A. M. V. L. inquires as to the basis of computation of income tax rates.

*** The rates are in all cases determined by the *total* income, and, as regards civil incomes, are the same for civilians as for persons in the forces. Consequently, in the case quoted—£400 as army pay and £400 unearned income—the respective rates will be 1s. 9d. and 3s. 9d.

LETTERS NOTES, ETC.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.

AN OLD MEMBER writes: Dr. A. Withers Green entirely overlooks the main point at issue—namely, Was a bonus promised or not? The real facts are: (1) The present financial state of the society is sound. (2) The bonus was promised. (3) The accumulated funds are the property of all the members. If, owing to the war, there is a chance of the reserves or surplus being overdrawn, then the annual premiums fixed in a time of peace should be increased to all future members, or a war tax put on. I am told that this plan (one or other) is being followed by some insurance companies, and it is a perfectly correct method of overcoming the difficulty of meeting increased claims due to the war. Is it fair that the present young members as well as the future members should have all the advantages—some of these at the expense of the older members who have been the means of building up the society to its present healthy financial condition? If the original plan of paying a bonus to all members every five years had been continued all would have fared alike; when this plan was discontinued the members were distinctly told that the bonus would be paid on ceasing membership. The former secretary, Mr. Addiscott, and the former actuary, Mr. Orisford, both differ from the present actuary as to the equity of stopping the bonus.

R.A.M.C. (temp.) writes: I have been a member of the society since 1890. In three years' time I have been hoping to receive a small bonus, and I am in still hopeful expectation that a broader view will shortly be taken as to the disposal of the funds, which seemingly should rightly belong to the members of the society. Working abroad, it has been impossible for me to attend any annual meeting and to voice my individual opinion. I have served my country since the beginning of 1915, leaving my practice in the hands of friends, and receiving only a moiety of my accustomed income, and I trust that the task of accumulating a small capital for myself and for my family against the approaching time when physical energy will surely decline may be lightened by the graceful action of the committee.

TREATMENT OF MENINGITIS.

MRS. M. N. FYSH, M.B.Lond., writes: Captain Cade (June 1st, p. 634) says that my treatment is unscientific and retrograde. It is neither. Iodine, quickly absorbed through the unbroken skin, travels readily through the more easily penetrated tissues beneath, and soon finds itself in the meningeal fluid. Here, being a powerful germicide, it acts by destroying the meningococci, and helps defence by increasing the number of leucocytes. From many years' hospital experience in the external use of iodine in other internal inflammatory conditions, I am convinced that its uniform success in suitable cases is explained by this direct absorption into the natural fluid of the cavities concerned. I submit that the treatment is more scientific than injecting a serum which may or may not be the one suitable for the particular case. There must always be the doubt, for by the time the diagnosis could be established and a suitable serum prepared the patient would be beyond the reach of any remedy. In using iodine we are on sure ground, for it is an enemy to all germs alike. My treatment is an extension of the use of a remedy of proved value. It is simple, safe, and always at hand. Finally, if Captain Cade had seen the relief and comfort afforded to the patients by its use, the cessation of the piercing shrieks, the quieting of the restlessness and convulsions, the gradual awakening out of coma, and had experienced the joy of watching the restoration to health that followed, I am sure he would be sorry to discourage others from trying it.

THE FUND TO REIMBURSE DR. J. H. BELL FOR HIS LEGAL EXPENSES.

The following is the first list of subscriptions received:

	£	s.	d.
Dr. P. Watson-Williams.	10	10	0
Dr. G. Herbert Alcock ...	1	1	0
Miss E. Letts	2	0	0
Dr. Florence Stoney ...	1	1	0
Dr. Murray B. Stuart ...	2	2	0
Dr. T. D. Acland	2	2	0
Mrs. Mabel J. Smith ...	1	0	0
Per Dr. J. Hedley... ...	5	15	0
Mr. E. Pascal Taylor ...	10	0	0
Dr. J. Prescott Hedley ...	10	0	0
Mr. W. H. Battle	10	10	0
Dr. Telford Gibbons ...	10	0	0
Dr. Kinnier Wilson ...	10	0	0
Dr. Neville Hart	1	1	0
Dr. G. Douglas McRae ...	1	1	0
Sir StClair Thomson ...	5	5	0
Sir William Osler ...	5	5	0
Dr. James Taylor ...	5	0	0
Dr. C. O. Hawthorne ...	2	2	0
Dr. B. D. Gairdner ...	2	2	0
Dr. Byrom Bramwell ...	10	10	0
Dr. Edwin Bramwell ...	5	5	0
Dr. J. Walter Carr ...	1	1	0
Captain Owen Berkeley-Hill	1	1	0
Dr. Hernaman-Johnson	1	1	0
Dr. G. MacMillan Blair	1	1	0
J. W. F. R....	1	0	0
Mr. R. K. Howat	1	1	0
Dr. J. Francis Dixon ...	1	1	0
Dr. Alfred G. Barrs ...	5	0	0
Miss Constance Thomas	1	0	0
Dr. J. Brevard Neal ...	0	10	6
Dr. F. W. Waterworth ...	0	5	0
The Editor of the *Lancet*	10	10	0

Subscriptions should be sent to Dr. Kinnier Wilson at 14, Harley Street, London, W.1, and will be acknowledged in the BRITISH MEDICAL JOURNAL and the *Lancet*.

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

Subscriptions to the Second Appeal.

The following subscriptions and donations to the Fund have been received during the week ending August 6th:

	£	s.	d.
Sergeant W. H. Cloud, R.A.M.C.	1	10	0
Captain A. U. Millar, R.A.M.C.	2	10	0
Captain Beatson Hird, R.A.M.C.(T.)	2	2	0
Dr. C. W. Branson ...	3	0	0
Captain A. E. Chisholm, R.A.M.C.	0	10	0
Dr. J. W. Martin	1	1	0
Dr. F. W. Goodbody (monthly)...	1	0	0
Dr. F. Wacher	2	2	0
Dr. C.	5	5	0
Mr. J. B. Wimble* ...	25	0	0
Royal College of Surgeons of England ...	52	10	0
Mr. E. Spencer Evans (monthly)	0	10	0
Surgeon Rowland Hill, R.N....	1	1	0
Dr. A. C. E. Harris ...	1	1	0
Mr. A. Ward*	2	2	0
Dr. Brown Kelly	5	5	0
J. G. C. Mancuniensis ...	3	3	0
Dr. J. Brindley-James ...	1	1	0
Captain G. W. Curtis, R.A.M.C.	2	2	0
Major W. Longbottom† ...	1	1	0

* Per Dr. Des Vœux. † Per Captain G. W. Curtis.

Subscriptions to the Fund should be sent to the Treasurer, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W.1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Seven lines and under	0	6	0
Each additional line	0	0	9
Whole single column	4	0	0
Whole page	12	0	0

An average line contains six words.

All remittances by Post Office Orders must be made payable to the British Medical Association at the General Post Office, London. No responsibility will be accepted for any such remittance not so safeguarded.

Advertisements should be delivered, addressed to the Manager, 429, Strand, London, not later than the first post on Wednesday morning preceding publication, and, if not paid for at the time, should be accompanied by a reference.

NOTE.—It is against the rules of the Post Office to receive and *restante* letters addressed either in initials or numbers.